SHORT TALKS WITH YOUNG MOTHERS

BY

CHARLES GILMORE KERLEY

Short Talks With Young Mothers

ON THE MANAGEMENT OF INFANTS AND YOUNG CHILDREN

BY

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TO

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THIS WORK IS INSCRIBED

IN RECOGNITION OF HIS HIGH PROFESSIONAL ATTAINMENTS AND ENTHUSIASM IN PROMOTING THE STUDY OF DISEASES OF CHILDREN, AND IN GRATEFUL APPRECIATION OF MANY ACTS OF KINDNESS

PREFACE

THE aim of this book is to help the young mother to a closer acquaintance with and a more intelligent appreciation of the nature and demands of the little life entrusted to her care.

In its preparation the author has kept in mind and has endeavored to answer the personal questions of many thoughtful young mothers. The better-class young mother of the present day is not content with the meagre information possessed by her mother and grandmother.

Suggestions relating to medical treatment are intentionally avoided. A mother should know all the details of the child's feeding, clothing, bathing, and airing, and what to do in an emergency. She should also be able to recognize symptoms of illness and appreciate their significance. She is not supposed to be skilled in the use of drugs.

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ILLUSTRATIONS

SHORT TALKS WITH YOUNG MOTHERS

THE BABY-BASKET AND ITS CONTENTS

(See Fig. 1.)

A BASKET in which all the toilet necessities for the baby may be kept together will be found a great convenience when the time for their use arrives.

The tray should also contain a good-sized pin-cushion. Other necessary articles are:

1. Puff-box and puff.
2. Soap-box, containing Castile soap.
3. Infant's hair-brush and fine comb.
4. Eight ounces of a saturated solution of boracic acid for mouth and eyes.
5. One-half pound of absorbent cotton.
6. A package of wooden toothpicks.
7. A bottle of white vaseline.

8. A bath thermometer.
9. One yard of plain sterile gauze.
10. Plenty of soft old linen
11. Six of the best baby towels.

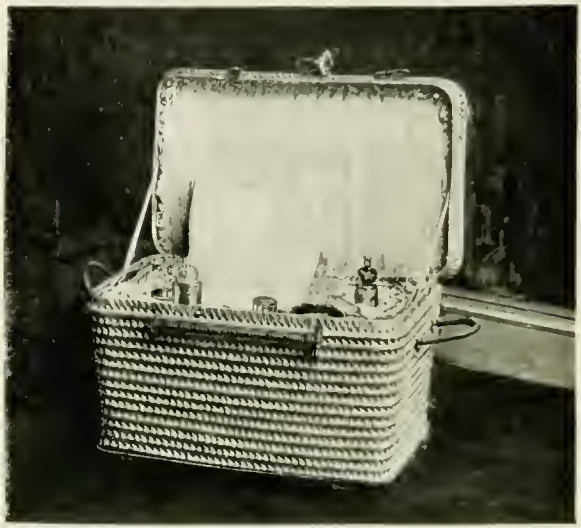

FIG. 1. BABY-BASKET

12. A white eiderdown blanket one and one-half yards long.
13. One pair of small scissors.
14. A package of nickel-plated safety-pins (three sizes).

15. One yard of the best white flannel for abdominal binders.

CLOTHING TO BE PROVIDED FOR THE EXPECTED BABY

These are the articles that are absolutely necessary. More elaborate preparations are made for some children. This list, with the contents of the baby-basket, comprises everything that is required during the first few weeks.

1. Forty-eight cotton diapers, made from Birdseye cotton diaper; two sizes are necessary.

(a) Three pieces 20 in.

(b) Three pieces 22 in.

2. One yard of white flannel for belly-bands. Leave the piece as it is, to be used by the trained nurse as required. After the sixth week knitted bands with shoulder straps are preferable.

3. Four second-size silk-and-wool shirts.

4. Six pinning blankets made of white flannel with cotton bands.

5. Three flannel skirts.

6. Three white skirts.

7. Six night slips to be used day and night for five or six weeks.

8. Six day slips as plain as possible, bishop style.

9. Three eiderdown wrappers.

10. Three cashmere sacques.

ADDITIONAL NEEDS

1. Three bath aprons for the mother or nurse, to be used to cover the baby after he is taken from the bath. These should be made of shaker flannel.

2. Three pads, each one yard square, and three more, each one-half yard square. These are necessary for the crib and lap.

THE FIRST DUTY TO THE CHILD

With the severing of the umbilical cord the child begins an independent existence. It is made to cry, the eyes and mouth receive attention, when it is wrapped in a soft, warm blanket and placed out of draughts until it can be given further attention. During the excitement of the occasion and the needs of the mother the baby is sometimes neglected, often with

serious consequences. A few months ago I saw, with another physician, a fatal case of pneumonia in a child four days old, the disease being due in all probability to neglect. It must not be forgotten that the baby has been suddenly transported into an entirely different sphere of action from that to which he is accustomed, and we must make the change as easy for him to bear as possible. As soon as the nurse can devote her attention to the baby he should be gently and thoroughly oiled with liquid albolene or sweet oil. This is to be followed by a sponge bath with luke-warm water and castile soap. The stump of the cord should be dusted with some dry antiseptic powder and wrapped in dry, plain sterile gauze. The cord, particularly at its junction with the abdomen, should be thoroughly dusted twice a day. When it falls off, the parts should be kept dusted and dry until cicatrization is complete.

THE WELL BABY

In order to appreciate disease or failure in proper growth and development, it is

necessary to know what constitutes a well baby. The well baby grows steadily, shows an increase in weight of from five to six ounces a week, the muscles are firm, the skin clear, and the eyes bright. When hungry he makes it known by crying lustily. At the completion of the feeding he gives evidence of comfort by drowsiness, or by falling asleep. There are two or three soft yellow stools daily. After the second month the well baby appreciates a moderate amount of attention, and is attracted to bright objects and pleasant faces. His sleep is restful and he wakes quite naturally. It is not to be understood that the well baby cries only when hungry. He often cries while being undressed, when the clothing is uncomfortable, when objectionable people appear before him, or when suffering from transient pain.

At the third or fourth month he should be able to hold his head erect without support; from the sixth to the seventh month—at this time the first tooth is usually cut—he acquires the power of sitting up without assistance; from the ninth

to the tenth month he begins to creep, and from the twelfth to the eighteenth month he learns to walk alone. A very few children walk alone before the twelfth month; the great majority, however, are from fifteen to eighteen months of age before this important feat is accomplished. There is nothing to be gained and much harm may be done by parents favoring early walking. When the child learns to walk unaided it is usually safe to allow him to continue.

THE WEIGHT OF THE WELL BABY

	BOYS	GIRLS
Average weight at birth	7 55 lbs.	7.16 lbs.
" " " three months	11 75 "	11 5 "
" " six months	16 "	15 5 "
" " " nine months	18 "	17.75 "
" " " twelve months	20 "	19.8 "
" " " eighteen months	22 8 "	22 "
" " " two years	26.5 "	25.5 "
" " " three years	31.5 "	30. "
" " " four years	35. "	34 "
" " " five years	41.2 "	39 8 "
" " " six years	45.1 "	43 8 "

Every child under one year of age should be weighed once a week. The

[1] Dr L. Emmett Holt, *Diseases of Infancy and Childhood.*

very weak and delicate and those who are being put through a new course of dietetic treatment on account of failure in growth, should be weighed two or three times a week. A child is doing fairly well who gains on an average four ounces a week, ten months in the year. Such a child, however, needs careful watching. If a child gains from six to ten ounces a week we are perfectly satisfied with his progress. The use of the weight chart which is tacked on the wall of the nursery I do not advise. Such a chart, while recommended by many well-known writers, has been the cause of serious trouble. The mother and nurse wish baby's weight chart to make a good showing,—to show something phenomenal if possible, for the admiration of relatives and friends. Some perfectly well, vigorous babies increase in weight slowly ; but a gain of only four or five ounces a week,—so much below the standard of her neighbor, makes a very unsatisfactory chart and the mother in consequence begins to worry, fearing that her baby is not being properly nourished.

Worry and anxiety have caused the milk of hundreds of mothers to fail, and rendered further nursing impossible. If the babe is wet-nursed and the chart does not show a large gain, the mother scolds, the family generally is dissatisfied, the nurse becomes angry, and, fearing lest she lose her position, her milk soon fails and she is unable to nurse the baby. If the baby is bottle-fed, there is a strong tendency to overfeed him in order to make a pretty chart, and as a result the child is made ill.

The gain in weight is much less in summer than during the cooler months. I have seen many children in perfect health pass through July and August without gaining an ounce ; but with the arrival of cooler weather they will surely make up for the time lost. There is usually a decided loss in weight the first four days of life. This loss—from a quarter to a half pound—will usually be regained in five or six days if the child is properly fed. At the end of the first year the child should weigh two and one-half times as much as

at birth. There should be a gain of about seven pounds during the second year.

HEIGHT IN INCHES FROM BIRTH TO SIXTH YEAR

At Birth.	*6 months*	*12 months*
Boys, 20.6	25.4	29
Girls, 20.5	25	28.7

18 months	*Two years*	*Three years*
Boys, 30	32.5	35
Girls, 29.7	32.5	35

Four years	*Five years*	*Six years*
Boys, 38	41 7	44.1
Girls, 38	41.4	43.6

HOW TO LIFT THE BABY

A baby should be lifted by placing one hand under the buttocks and the other under the head. Until the fifth or sixth month is reached, a child should never be raised with the head unsupported.

THE NURSERY

The room used for the nursery should be the best in the house. If possible it should be on the top floor, with at least two windows and a southern exposure. The furniture and furnishings should be

of the simplest. Enamelled bedsteads and only plain furniture which can be washed should be used. A hardwood floor is best because it is easily cleaned with a damp cloth ; a broom should never be used in the nursery, as it stirs up the dust, which deposits itself in another place. · Rugs may be used on the floor, but they should be removed and beaten every day. The walls should be of hard finish or painted. There should be an open fireplace in every nursery, not necessarily for heating purposes but for ventilation. Usually the open grate and the windows are the only means of ventilating the nursery. The window ventilating-board is of considerable value. I always advise its use. It is a board about four inches in width which fits tightly beneath the lower sash. This leaves an open space between the sash which allows the entrance of a current of air, which is directed upward.

There should be two shades to each window, a white shade and a dark shade. The furnace, with its dry heat, is

preferred to steam with its uncertainties. The temperature of the steam-heated room is hard to regulate, being very high at one time and low at another. In many apartments the fire is not kept going at night, and in cold weather the temperature of the rooms often falls to 60° or 55°. This is decidedly injurious. The child perspires from the heat of the room in which he is put to bed, kicks off the bedclothes, and becomes thoroughly chilled when the temperature falls. There should be a thermometer in every nursery which should not be allowed to register above 72° or below 70° during the day or above 68° or lower than 65° at night. In houses where steam is the only means of heating, as is the case in thousands of New York homes, some means must be at hand which can be called upon at a moment's notice to furnish the required heat. The grate fire answers well for this purpose. The popular gas log is better than no heat at all.

The nursery must be given an hour's

airing twice a day,—one-half hour in the morning, and one-half hour in the afternoon. Napkins must not be dried in the nursery but washed after each soiling. Vessels containing urine should not stand in the nursery.

The child should sleep alone in his crib. The old-fashioned cradle in which several generations have been rocked is an interesting heirloom, but under no circumstances should it be removed from its corner in the garret. The modern baby should never be rocked.

MATERNAL NURSING

In New York City proportionately fewer children are nursed by the mother each succeeding year. The social conditions of our time are against the development of those requirements so essential for the proper performance of all the functions of motherhood.

A nursing mother, in addition to being in fair physical condition, should be mentally at rest. This is not the case with the sensitive, overtrained, and impressionable

women of our better classes. A nursing mother should worry little, and have no anxiety for the morrow. A mother, to nurse her child successfully, must be a happy, contented woman. It is the lack of happiness,—the absence of contentment that pervades all classes, that renders women unable to nurse their children.

The American women of our large cities assume the cares and responsibilities of life equally with men. Among the so-called higher classes,—those who have all that wealth and position can give,—there is a constant struggle for social pre-eminence. Among the majority of the so-called middle classes the contest for wealth and place never ceases from the moment the school days begin until death or infirmity closes the scene. Among the poor there are the ceaseless toil, the struggle for food and shelter, the care of the sick, and the frequent deaths of little ones in the family whom they are unable properly to care for. In all classes, therefore, the conditions of life are such as

seriously to interfere with the normal function of nursing, no matter how excellent may be the mother's physical condition. As a rule the phlegmatic mother who thinks the least makes the best wet-nurse. It is not implied that brains and successful nursing do not go together, but mental dulness and the ability successfully to carry on this function are far more frequently found associated. Our best wet-nurses are the European peasant women. Neither they nor their ancestors were ever known to exercise what brain power they may have possessed. Every mother in good health should make the attempt to nurse her baby; it is better for the mother, it saves much trouble, and it may save the baby's life.

From six to ten hours after labor, the mother's nipples should be washed with a saturated solution of boracic acid, dried, moistened with alcohol, and the baby put to the breast. After this it should be done at regular intervals every two or three hours. This may seem

useless, as the milk does not appear in the breasts until from forty-eight to seventy-two hours afterward. Of course, there will be no great attempt at drawing on the nipples, but it will be sufficient to accustom them gradually to their new office, so that when the milk suddenly rushes into the breasts, as it often does, both baby and nipples are prepared for their work. Before the milk appears the baby can be given a solution of sugar of milk, —a teaspoonful of sugar of milk to one-half pint of boiled water. Of this solution from one-half to one ounce may be given every two or three hours.

With the commencement of nursing accustom the child to getting its food at stated intervals. Between 6 A.M. and 10 P.M. there should be nine nursings. Between 11 P.M. and 6 A.M. only one nursing should be given and that at 2.30 A.M.

There are many mothers who cannot nurse their babies, and there are mothers who, although they have plenty of milk, should not be allowed to nurse their

babies. Among such mothers may be included consumptives and those who have a strong hereditary tendency to tuberculosis. Pale, anæmic women are usually poor wet-nurses. They often begin well but the milk soon fails. Women who become mothers for the first time after reaching the age of thirty-five make indifferent wet-nurses, as also do those who become mothers before eighteen or nineteen years of age. Other things being equal, from the twenty-first to the thirty-fifth year is the most successful nursing period. In most instances frequent child-bearing precludes nursing. Upon the advent of pregnancy the nursing must be stopped at once. As previously stated, the nervous, worried mother is also an utter failure at nursing.

What are the signs of successful nursing?

In a previous chapter it was stated that the baby should gain not less than four ounces per week; the benefit of the weekly weighings is now apparent. The weighings keep us in touch with

the child, but we need not always depend upon them to determine whether the child is properly nourished. When a baby is nursed at proper intervals, and the milk is sufficient and of good quality, he appears satisfied at the completion of the nursing. Sometimes he falls asleep, sometimes he feels a bit drowsy, but at all times he is comfortable. When the nursing hour again approaches, he becomes restless and unhappy, crying lustily if the nursing is much delayed. When the breast is offered he takes it greedily and is satisfied in from ten to fifteen minutes. His stools are yellow and number two or three daily. Such a child should gain from six to ten ounces weekly and will sometimes gain more. The child for whom the supply of milk is insufficient, or with whom it does not agree, is entirely different. If the milk is lacking in quantity, the child remains long at the breast—perhaps from one-half to three-quarters of an hour. When removed he is restless and uncomfortable; in a short time — in an hour or less —

he seems to be very hungry and demands frequent nursing both day and night. The milk may be sufficient in quantity but poor in quality, or it may be too rich ; whatever may be wrong, the child is uncomfortable a greater part of the time, and is considered a very cross baby. There is always more or less colic, and there may be constipation or diarrhœa. The stools are often green and contain mucus. Frequently there is slight vomiting. The child who does not get milk enough and the child whose milk is unsuitable alike fail to thrive. They make little or no gain in weight ; sometimes there is decided loss ; they are pale, pinched babies.

Normal mother's milk is of a bluish-white color. Upon standing twelve hours in a narrow glass, a firm layer of cream will form on the top. If, however, the cream forms in flakes we know the milk is deficient in fat. Chemical examination of the milk alone can determine correctly what deficiency there may be. The physician is then able intelligently to treat the

mother with a view to improving the quality of the milk. So much may be done in this respect that often nursing may be successfully continued. Every case, particularly if it presents grave difficulties, will require special treatment. Much improvement in the nursing capacity will be observed, however, if the following rules are followed, not for one or two days, but for every day :

The nursing mother should be temperate in all things. She should be free from unusual care and anxiety. A child will not thrive on fretted milk.

She should sleep at least eight hours, preferably ten, out of the twenty-four.

She should walk or drive from two to four hours daily.

The bowels should move once every day.

The nursing mother's diet should be plain and substantial. It should consist of soups, bread and butter, cream, cereals, green vegetables, rare lean meats, poultry, fish, stewed and ripe fruits, milk, cocoa, chocolate, and plain cake.

To be avoided are rich, highly-seasoned foods of all kinds, with rich gravies, sauces, and puddings and pies. Condiments may be taken in moderation. One or two cups of coffee may be allowed daily, but tea should form no part of the dietary of the nursing mother. Constipation is a very frequent disorder among mothers. Time and again I have seen a baby ill from this cause alone. Constipation, indigestion, and colic is the usual combination in the nursing child. Babies occasionally become ill during the menstrual period of the mother, but it rarely amounts to more than a slight attack of indigestion, which is relieved in a day or two without any special treatment.

Any sudden mental impression upon the mother, whether of a pleasant or a disagreeable nature, will often act as a shock and produce an attack of vomiting and diarrhœa in the infant.

It is my custom to advise that the baby be trained to the bottle at an early age, even though the mother is nursing him satisfactorily. The chief advantage of a

daily bottle-feeding is, that it affords the mother greater freedom,—more time for recreation and enjoyment. If a baby has to be nursed every two or three hours, it means that the mother cannot get very far from the baby. The bottle-feeding will allow her to go to the theatre, to go shopping or calling on her friends. Further, if the mother is called from home, or if she is taken ill, the baby's nourishment will have been provided for. The formula used should correspond to the age of the child, as suggested in the chapter on bottle-feeding. At the seventh month one or two bottle-feedings will be required daily. At an earlier period, if the milk fails, it may be supplemented by bottle-feedings; the bottle may be given every third feeding or every second feeding. If a mother cannot nurse her child satisfactorily every second feeding, the nursing would better be discontinued.

The great majority of breast-fed children are weaned before they are twelve months old, and wisely so. If a child can be nursed five months he has a great

advantage over one that has been bottle-fed from birth. If he can be nursed for a longer period,—up to the ninth or tenth month,—so much the better for the baby.

NURSINGS FOR TWENTY-FOUR HOURS

Third to twenty-first day	10 nursings.
Third to sixth week	9 "
Sixth to twelfth week	8 "
Third to fifth month	7 "
Fifth to seventh month	6 to 7 "
Seventh to twelfth month	5 to 6 "

THE WET-NURSE

The employment of a wet-nurse should be decided upon only when all other means of nourishment fail. The wet-nurse should not be under the age of twenty-two, or over thirty-five years. The age of her infant should correspond within a month or six weeks with that of the baby she is to nurse. The uneducated and naturally stupid make better wet-nurses than the educated and impressionable. As a rule, the German, Austrian, and Russo-Polish peasants make the best wet-nurses. Irish girls occasionally make good wet-nurses,

but they lack the strength of the types mentioned and excel in temper. Whether the wet-nurse is married or not should exert no influence upon her selection, which is made for a purely animal function. Both the wet-nurse and her baby should be passed upon by a physician before she is engaged. I have heard from time to time of good wet-nurses,—those who could nurse a baby satisfactorily and were in no way objectionable. It has not been my lot to meet such a one. Those with whom I have come in contact required constant watching as to bowel function, cleanliness, and exercise. The diet of a wet-nurse should be plain, the same as suggested in a previous chapter for a nursing mother. There is a strong tendency to indulge the wet-nurse. She is, for the time, the most important individual in the family, next to the baby, and is often pampered and overfed. She has been accustomed to hard work and plain food. Rich food and idleness soon result in illness, the baby suffers, and another wet-nurse must be secured. From

the commencement of her engagement the time of the wet-nurse should be kept fully occupied. She should take two or three hours' exercise in the open air every day and should be given some simple domestic duties to perform, such as sewing or assisting in the kitchen or with the upstairs work. If the wet-nurse is a success she must never learn her value, for when this is once discovered there is but little peace for the household while she is a member of it. It is astonishing in how many ways one of these women can make herself disagreeable!

Every wet-nursed baby should receive one bottle-feeding daily, so that should the wet-nurse be taken ill or have to be discharged the baby will not suffer. Further, if she knows she can be dispensed with, the conduct of the wet-nurse will be much better.

Considering the matter from the standpoint of the wet-nurse a few hints may not be amiss. She was engaged as wet-nurse and should not be expected to do the family washing or cooking.

Further, she should not be "nagged" continuously, nor berated for every stomach-ache, nor criticised if the baby does not make a satisfactory gain in weight. She should not be condemned if the child does not do well at first on her milk. She has left her own baby and is living in entirely different surroundings, and it would not be strange if for a day or two her milk had an unfavorable influence on the baby.

CARE OF THE BREASTS AND NIPPLES

After nursing is well established the baby should be nursed at about two-hour intervals during the day. From 6 A.M. to 11 P.M. there should be nine nursings. If he sleeps between 11 P.M. and 6 A.M. do not wake him. One feeding at 2.30 A.M. is required by a few children up to the third month; the great majority, however, do better without it. Before and after each nursing the mother's nipples and the child's mouth should be gently washed with a saturated solution of boracic acid, using either clean old linen

or absorbent cotton. The nipples should be thoroughly dried after the washing. Vaseline may then be applied to the nipples on old linen or sterile gauze, which remains as a dressing until the next nursing, when the nipples should be washed with a boracic-acid solution before the child is put to the breast. This involves considerable work and is necessary only for a week or two, when the nipples will be accustomed to their function, and the washing with the boracic-acid solution will be the only treatment necessary.

Nursing is often most painful on account of cracks and fissures in the nipples. These are very apt to occur if the parts are neglected, and the resulting pain when the child nurses is unbearable, necessitating sometimes the discontinuance of the breast-feeding. The baby should never be allowed to touch a cracked or fissured nipple, and a nipple-shield (see Fig. 2) should be used until the parts are healed. Some babies take very unkindly to the nipple-shield, and often a great deal of patience must be exercised before they

can be taught its use. If the shield suggested does not answer, others may be tried. The breast should never be allowed to become hard or painful. If the child does not take enough to keep the breasts soft a breast-pump should be used to remove the remainder. For this purpose, the so-called English breast-pump (see Fig. 3) is the best. With the first rush of milk to the breasts it is often very difficult to prevent hard, painful nodules from forming in the glands. The free use of the breast-pump and massage with warm oil, if properly carried out, will prevent the formation of an abscess.

FIG. 2. NIPPLE-SHIELD.

When the breasts are large and pendulous, a support consisting of a bandage firmly applied around the chest will often afford much comfort and prevent serious trouble. In addition to the use of

the nipple-shield, the cracked nipple should be washed with a boracic-acid solution after each nursing, and dried, when a soothing ointment may be applied on old linen; such an ointment, composed of ichthyol fifteen grains, vaseline one-half ounce, oxide-of-zinc ointment one-half ounce, has given most satisfactory results. The ointment should be carefully removed with warm sweet-oil and the nipple washed in alcohol before the next nursing. When the fissures are healed, the nursing may be resumed, allowing the child for a few days to take the nipple every second or third nursing, thus

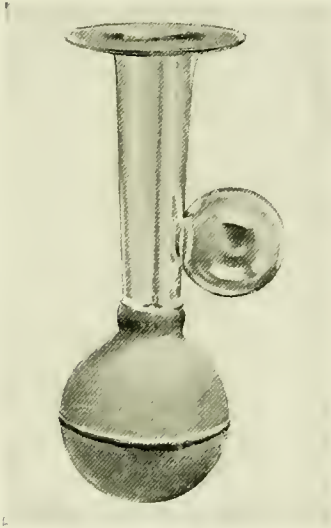

FIG. 3. ENGLISH BREAST-PUMP.

gradually accustoming the nipples to the rough usage.

WEANING

When is the nursing baby to be given other food, or how long can the breast be relied upon to furnish the child its sole nourishment? If the mother, unassisted, is able to nourish her infant steadily until it is seven months of age, she is doing remarkably well. There are very few nursing mothers who can pass that period without assistance. Perhaps one or two bottle-feedings a day may suffice. In many cases the milk will fail about the seventh month and absolute weaning be necessary. Granting, however, that the child is thriving on the breast alone, or doing satisfactorily on the breast with only two daily feedings, at what age should the weaning take place? I have known just one mother out of several thousand who could nurse her child to the child's advantage after twelve months had passed. I have seen many pronounced cases of malnutrition and rickets due

directly to prolonged nursing. Indigestion and diarrhœa are often the outcome of prolonged breast-feeding.

The weaning in health should begin not later than the twelfth month. It is best accomplished gradually by substituting bottle-feeding for nursing, giving only one bottle the first day, two the second, three the third, and so on until in a week or ten days weaning is complete. In case the child is ill we may be obliged to wean at once when bottle-feeding is substituted for the breast, but the milk formula corresponding to his age should not be given. To a child six months of age give the three-months' formula ; a child nine months of age should receive the six-months' formula. A gradual increase to the formula suggested for a child the age of the patient may be made if all goes well. After the ninth month it is often possible to feed from a cup, which is then to be preferred to bottle-feeding as a substitute for the breast.

THE SELECTION OF MILK.

The selection of the milk on which the

baby is to live is a matter of no little importance. There is a vast difference in the quality of the milk on the market. Too many mothers look upon all milk as being of uniform value because it all has a similar appearance. While the general character of the milk sold has improved greatly during the past few years, a great deal of that used at the present time is unfit for food for a baby. New York City mothers should insist that the milk used be bottled and sealed at the farm, and also insist that it be certified by the New York Milk Commission. Milk if properly produced is expensive; it cannot be sold for six or eight cents a quart, and mothers will have to pay more than this if they get a suitable article. The most expensive milk will, as a rule, be found safest for use.

THE BOTTLE AND NIPPLE

The least complicated feeding apparatus is the best. The oval eight-ounce bottle (see Fig. 4) should be used. These are without corners and are

easily cleansed. The straight, black nipple is also preferred, for the reason that it can be turned inside out and easily cleansed. A nipple which cannot be turned should never be used. At least four nipples are needed for a complete outfit. After using, a nipple should be turned and scrubbed with a stiff brush and borax water —a tablespoonful of borax to a pint of water. When not in use it should be kept in the borax water. Before placing it on the bottle it should be rinsed in boiled water. The nipple should be boiled once a day. The blind nipples without holes are best. Holes of the required size may be made with a red-hot cambric needle.

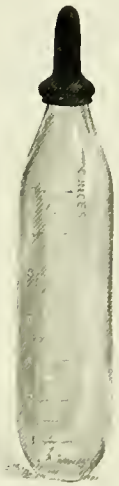

FIG. 4. NURSING-BOTTLE AND NIPPLE.

There must be as many bottles as there are feedings in twenty-four hours. The bottles should be boiled once a day, scrubbed with a stiff brush in hot borax water and remain in the borax water

until needed. Before using, they must be rinsed with plain boiled water.

ARTIFICIAL FEEDING

BOTTLE-FEEDING

When it is decided that the child will have to be nourished by other means than the breast, we are obliged to furnish a suitable substitute for the mother's milk which the child has a right to demand. In our selection we must be guided by Nature and furnish a food that will correspond as closely as possible to the mother's milk. This can be done only by the use of cows' milk properly prepared and diluted. Proprietary foods and condensed milk furnish very poor substitutes, as will be seen under their respective headings elsewhere. Cows' milk differs from mothers' milk in its most important constituents. Good cows' milk contains primarily 3.50 to 4 per cent. of fat, 3.50 to 4 per cent. of proteid and 4 to 5 per cent. of sugar. Mother's milk on the other hand contains 3.5 to 4 per cent. of

fat, 1.5 per cent. of proteid and 7 per cent. of sugar. It will be seen that cows' milk contains more proteid (curd) and less sugar than is contained in mothers' milk. We must endeavor to make the proportion of the important constituents of cows' milk,—the fat, proteid, and sugar, correspond to that of mothers' milk. This has given rise to the term *modified milk.* Cows' milk is made to correspond to that of the mother by diluting it with water to reduce the proteid, and then by adding cream and milk sugar to bring up the fat and sugar to the required strength.

The term *modified milk* is not a good one, for the term "modified" does not cover all that is done in rendering cows' milk a suitable diet, that is, changing it to correspond to mothers' milk. We would have very little success in infant feeding if this were all we did. The milk must be adapted to a child's age and peculiarities, so that the term *adapted milk* expresses far better what we wish to accomplish. In adapting milk to an infant, we must remember that cows'-milk

proteid is more difficult to digest than the proteid of mothers' milk, and that frequently a smaller amount of fat must be given than is contained in mothers' milk. Particularly must these precautions be observed in the very young and delicate. The gravest error, and one most frequently made in cows'-milk feeding, is that of giving the food too strong, at the beginning. In consequence, the digestive organs are overtaxed, the child vomits, has colic, suffers from constipation or diarrhœa, and, of course, cannot thrive; cows' milk is therefore discarded because it did not agree with the baby, while it was not the milk but the way it was given that was at fault. In the feeding formulas given below, the milk is adapted to the various ages of infancy and not to the child's condition, as that would obviously be impossible. These formulas will be found suitable for *average* infants in fair health. In the matter of feeding, every child is a law unto himself and he must be fed individually. For some babies the formulas suggested will not

answer at all. One six-months' child may require the nine-months' formula, while another may be able to take only the three-months' formula. All babies of the same age or weight must not be expected to thrive on food of exactly the same strength.

It is the duty of the physician to adapt the milk to the patient's digestive capacity by giving to each the required proportion of fat and proteids. The signs of successful bottle-feeding are the same as of successful breast feeding: comfort, sleep, and an average gain in weight of not less than four ounces a week. There should be two or three yellow stools daily.

The signs of unsuccessful feeding are vomiting, discomfort after feeding, habitual colic, green, undigested stools, and loss, or a very slight gain, in weight. A very few children cannot take cows' milk in any form. In this class belong those who have been badly managed. They have taken cows' milk too strong or otherwise improperly adapted. They

may have undergone a series of hysterical changes with various proprietary meal foods in the hope that something might be found which would agree with them.

In some cases cows' milk of any strength produces colic and vomiting or more c[illegible] diarrhœa. These difficult feeding cas[illegible]ther the result of the delicate condi[illegible]of the child *per se* or of improper feeding, require the greatest patience on the part of the physician and mother. Many of these cases must be seen by the physician every day for weeks before they can be brought to take a suitable diet. Milk must be temporarily discarded and substitutes, such as whey, diluted cream, barley water or broths, should be used. After a short time a very small amount of milk may be added to the substitute which has been found best to agree. Should the milk again cause disturbance, condensed milk,—one-half to one teaspoonful,—may be given with barley water, increasing the amount of condensed milk gradually if it is found

to agree. A wet-nurse is almost indispensable in some of these cases.

PREPARATION OF THE FOOD

Two quart-bottles of the best milk obtainable are required daily. The milk, which is delivered at six or seven o'clock in the morning, is at once placed in a refrigerator, where it remains for a few hours, until it is convenient to prepare the food. One bottle furnishes the milk, the other the cream. The bottle which is to furnish the milk must be well shaken before using, so as thoroughly to mix the milk and cream. Skimmed milk

FIG. 5. THE CHAPIN DIPPER.

should never be given to an infant. Boiled water should always be used. The milk sugar should be dissolved in hot water before mixing with the milk or cream. The cream at the top of the bottle is known as "gravity cream." It should not be poured off nor should the milk be siphoned from under it. The Chapin dipper (see Fig. 5) furnishes the best means of removing the cream. The upper portion of the cream in the bottle is richer in fat than that nearer the milk, therefore if only the upper dipper or two of cream is used it gives a mixture too rich in fat. Such being the case, no matter how little cream may be required, all the cream should be removed from the bottle, placed in a clean pint graduate (see Fig. 6) which is to be used for all measuring purposes, and stirred a trifle to make it of uniform strength. If the required amount of cream cannot be obtained from one bottle, another pint or quart of milk should be purchased, but cream purchased as such should never be used for infant feeding.

FORMULAS FOR FEEDING

From the first to the third day:

40 grains of milk sugar, to 1 pint of boiled water; ½ to 1 ounce every 2 or 3 hours.

From the third to the tenth day

1 ounce of gravity cream, 1 ounce of milk, 320 grains milk sugar, pinch of salt, boiled water to make 1 pint. 10 feedings in 24 hours; 1 to 1½ ounces at each feeding.

FIG. 6. ONE PINT GRADUATE.

From the tenth to the twenty-first day:

1½ ounces of gravity cream, 3 ounces of milk, 1 ounce of milk sugar, pinch of salt, water to make 24 ounces. 10 feedings in 24 hours; 1½ to 2 ounces at each feeding.

From the third to the sixth week :

3 ounces of gravity cream, 4 ounces of milk, 1½ ounces of milk sugar, pinch of salt, water to make 32 ounces. 9 feedings in 24 hours; 2 to 3 ounces at each feeding.

From the sixth week to the third month .

4 ounces of gravity cream, 5 ounces of milk, 1½ ounces of milk sugar, pinch of salt, water to make 32 ounces. 8 feedings in 24 hours; 2½ to 4 ounces at each feeding.

From the third to the fifth month :

5 ounces of gravity cream, 10 ounces of milk, 2 ounces of milk sugar, pinch of salt, boiled water to make 40 ounces. 7 to 8 feedings in 24 hours; 4 to 5 ounces at each feeding.

From the fifth to the seventh month :

5 ounces of gravity cream, 15 ounces of milk, 2 ounces of milk sugar, pinch of salt, water to make 42 ounces. 6 to 7 feedings in 24 hours; 5 to 6 ounces at each feeding.

From the seventh to the ninth month :

6 ounces of gravity cream, 24 ounces of milk, 2½ ounces of milk sugar, pinch of salt, water to make 48 ounces. 6 feedings in 24 hours ; 6 to 8 ounces at each feeding.

From the ninth to the twelfth month :

7 ounces of gravity cream, 35 ounces of milk, 2 ounces of lime water, 2½ ounces of milk sugar, water to make 56 ounces. 6 feedings in 24 hours ; 7 to 9 ounces at each feeding.

After the seventh month, from one to two tablespoonfuls of oatmeal, barley, or wheat jelly should be added to each feeding.

After the twelfth month, plain cows' milk may be given with the cereal jelly in addition to the other articles of diet suggested for a child one year old. (See page 49.)

The cereal jellies are made by boiling the cereal selected for three hours. It will be noticed that considerable latitude is allowed as to the amount of food which

is to be given at one feeding. This is because of the difference in the capacity of individual children. After the third month the midnight feeding should be discontinued. Seven feedings will be sufficient, the first at 6 A.M., and the last at 10.30 or 11 P.M. Between 11 P.M. and 6 A.M. the child should sleep. Babies are easily broken from the night bottle by substituting a bottle of boiled water or a milk mixture greatly diluted with water. The child soon discovers that this is not worth waking for. As a result of a full night's rest the digestive organs are better able to do their work, the appetite is increased and a larger amount of food may be given at each feeding.

The foregoing formulas will be found useful for the majority of average well babies. Those with pronounced digestive peculiarities should have the food especially adapted.

When the milk does not agree the cause must be discovered. The food as a whole may be too strong, when there will be indigestion and colic, and possibly diarrhœa

and vomiting. If the food contains too much cream there will be looseness of the bowels, and colicky stools, with considerable straining; there is apt to be regurgitation also. The sugar is rarely a cause of trouble, an indication of excess being the eructation of gas and a regurgitation of sour, watery material. It is comparatively rare, however, for the fat and sugar to cause any disturbance if they are given with any degree of intelligence; but the proteid,—the curd-forming element in cows' milk,—often gives us no end of trouble. Many infants, as previously stated, are able to digest only a very weak cows'-milk proteid; consequently at the beginning of cows'-milk feeding, when, as is often the case, too much milk is used,—too strong a food given,—the result is always disastrous. This, with too frequent feeding and night feeding, comprise the chief errors made in cows'-milk feeding; in fact, they are the cause of more bottle-feeding failures than all other factors combined. Excess of cows'-milk proteid is the cause of habitual colic, and is an

important element in habitual constipation. Chronic indigestion, as shown by vomiting, and undigested green stools are most frequently due to this cause. We frequently see children who cannot take cows' milk in any form; they must be given cream diluted either with plain boiled water, or with a cereal water to which milk sugar or cane sugar has been added.

STERILIZATION AND PASTEURIZATION OF MILK

Some confusion exists in the minds of mothers as to the significance of the terms sterilization and pasteurization. Milk is said to be *sterilized* when it has been heated to the boiling-point, 212° F. and kept at this point for thirty minutes.

Pasteurized milk is milk heated to 155° F. and kept at this temperature for thirty minutes. In heating the milk we have two objects in view: to kill the harmful micro-organisms which it may contain, and to keep the milk sweet for a longer

time than would otherwise be possible. The degree of heat to which the milk is subjected should depend upon the season of the year, the source of the supply, the age of the milk and the digestive capacity of the child. The more the milk is heated the more difficult of digestion it becomes, and the more liable it is to produce constipation ; so that, other things being equal, the less we heat the milk the better the nourishment we furnish to the child. In country districts where the cows are known to be healthy, and the milk clean and fresh, heating is unnecessary. In cities and large towns, where the source of the milk is unknown, and where it is from twenty-four to thirty-six hours old when it reaches the consumer, heating to a moderate degree is a safe procedure at any time of the year. Pasteurizing the milk kills most of the dangerous germs without materially affecting the digestibility, or changing the taste of the milk. Among the intelligent and cleanly I advise the pasteurization of milk ; among the ignorant poor and the careless,—such

as we frequently see in out-patient work, the milk should be boiled, particularly during the hot months. The pasteurization of milk is

FIG. 7. FREEMAN PASTEURIZER WITH BOTTLE RACK REMOVED.

best accomplished by the use of the Freeman Pasteurizer (see Fig. 7).

Directions for use are furnished with the Pasteurizer.

If for any reason the Freeman Pasteur-

izer cannot be used, the milk may be heated in a double boiler. If this is not at hand an ordinary agate basin may be used. The vessel should be placed over a slow fire, with a milk thermometer held in the mixture. When the thermometer registers 170°, remove the milk from the fire and pour it into as many bottles as there are feedings in the twenty-four hours. Absorbent cotton should be used for stoppers. The bottles should be cooled rapidly by placing them in cold water. The Freeman Pasteurizer should always be used if possible, for the reason that it saves much trouble, the temperature to which the milk is heated is uniform, it requires no manipulation of the milk after it has been prepared and heated, and there are no chances of the contamination of the milk from the air.

THE DIET FOR A CHILD FROM ONE TO TWO YEARS OF AGE

At the completion of the twelfth month the average well-regulated breast baby should be weaned, and other nourishment

given. If bottle-fed, he should receive more than the milk and cereals with which most children are fed. The food suitable for the second year of life and the method of its preparation and administration are subjects upon which the masses are most profoundly ignorant. A few children at this period of life are underfed, but the great majority are overfed, and carelessly given, at improper intervals, unsuitable food, wretchedly cooked. Summer diarrhœa finds its greatest number of victims among those children over twelve months of age who have been carelessly fed. The dreaded "second summer" robs many homes because of ignorant or careless parents. The second summer managed properly is hardly more dangerous than any other summer during the early years of a child's life. It is almost a universal custom when the child is weaned or given something other than a milk diet, to allow him "tastes" from the table. Very often these tastes comprise the entire dietary of the adult. Milk is oftentimes the only suitable article of diet that

is given. Afterward not only is the other food selected unsuitable, but it is given irregularly, and supplemented by crackers kept on hand for use between meals. During the hot months the gastro-intestinal tract is less able to bear such abuse and the child becomes ill. Usually when the twelfth month is completed I give the mother a diet schedule, with instructions to begin gradually with the articles allowed, in order to test the child's ability to digest them. Every new article of food should be carefully prepared and given at first in very small quantities. All meals are to be given regularly, with nothing between meals. With many children this expansion of the diet list is attended with considerable difficulty. They are thoroughly satisfied with the milk, and refuse all other forms of nourishment. In such cases time and patience are necessary at the feeding time. The more solid articles of diet should be given first, and the milk kept in the background.

Among the underfed seen at this period

of life are those who were nursed too long or those who were kept for too long a time upon an exclusive milk diet. A great majority of the cases of malnutrition of the second year are seen in the exclusively milk-fed. They are pale, soft, flabby, badly nourished children.

The following is a diet schedule which I have employed for several years. Each mother is instructed to select, from the foods allowed, a suitable meal.

From the twelfth to the fifteenth month: five meals daily.

7 A.M. Oat meal, barley or wheat jelly, one to two tablespoonfuls in eight ounces of milk. The jelly is made by cooking the cereal used for three hours and then straining through a colander.

9 A.M. The juice of one orange.

11 A.M. Scraped rare beef,—one to three teaspoonfuls, or soft-boiled egg, a piece of zwieback and a half-pint of milk.

3 P.M. Beef, chicken or mutton broth with stale bread broken into it. Six ounces of milk, if wanted.

6 P.M. Two tablespoonfuls of cereal jelly in eight ounces of milk; a piece of zwieback.

9.30 P.M. A tablespoonful of cereal jelly in eight ounces of milk.

From the fifteenth to the eighteenth month: four meals daily.

7 A.M. Oat meal, barley or wheat jelly, one to two tablespoonfuls in eight ounces of milk.

9 A.M. The juice of one orange.

11 A.M. A soft-boiled egg mixed with stale bread crumbs. One tablespoonful of scraped rare beef mixed with dry bread crumbs and moistened with beef juice. A drink of milk; zwieback or bran biscuit, or a crust of bread.

3 P.M. Mutton, chicken or beef broth, with stale bread broken into it. Custard, corn starch, or plain rice pudding; stewed prunes, baked apples, or apple sauce.

6 P.M. Two or three tablespoonfuls of cereal jelly with eight to ten ounces of milk.

From the eighteenth to the twenty-fourth month. four meals daily.

7 A.M. A soft-boiled egg, the heart of a lamb chop. Farina, hominy, or oat meal with equal parts of milk and cream. A drink of milk, bran biscuit and butter, or stale bread and butter.

9 A.M. The juice of one orange.

11 A.M. Rare beef, minced or scraped, spinach, asparagus tops, stewed tomatoes strained, mashed cauliflower, baked apple or apple sauce. A drink of milk, stale bread and butter.

After the twenty-first month, baked potato, and well-cooked string beans may be given.

3 P.M. Chicken, beef or mutton broth, with stale bread broken into it, custard, corn starch, or plain rice pudding, stewed prunes, a drink of milk, bran biscuit and butter, or stale bread and butter.

6 P.M. Rice and milk, hominy and milk, farina and milk or stale bread and milk.

THE DIET FOR A CHILD FROM TWO TO THREE YEARS OF AGE

THREE MEALS DAILY

The mother will select suitable meals from the following menu :

Breakfast (Seven to eight o'clock).— Wheatena, oatmeal, hominy, cracked wheat (each cooked three hours), with a little sugar, and equal parts of milk and cream.

A soft-boiled egg, a lamb chop, stale bread and butter, bran biscuit and butter ; a drink of milk.

At ten o'clock, the juice of one orange may be given.

Dinner (Twelve o'clock). — Strained soups and broths, rare steak, rare roast beef, poultry, fish, baked potato, peas, string beans, mashed cauliflower, strained stewed tomatoes, spinach, asparagus tips, bread and butter ; a glass of milk. (For dessert : Plain rice pudding, plain bread pudding, stewed prunes, baked or stewed apple, custard or corn-starch.)

Supper (Five-thirty to six o'clock).—Rice and milk, farina and milk, bread and milk, bread and butter, or bran biscuit and butter. Twice a week, custard or cornstarch may be given or a tablespoonful of plain vanilla ice-cream.

As a rule three meals answer best at this period. With three meals a child has a better appetite and much better digestion and consequently thrives far better than one whose stomach is kept constantly at work. Some children, however will require a luncheon at 3 or 3.30 P.M., and will not do well without it. This is apt to be the case with delicate children, particularly those under two and one-half years of age. If food is necessary at this hour, a glass of milk and a Graham biscuit will answer every purpose. Children recovering from serious illness will also require more frequent feeding.

THE DIET FOR A CHILD FROM THREE TO SIX YEARS OF AGE

The mother will select suitable meals from the following menu :

Breakfast.—Cracked wheat, wheatena, hominy, oatmeal — each cooked three hours. They may be served with equal parts of milk and cream and a little sugar.

A soft-boiled egg, omelet, scrambled egg, chop, bread and butter, bran biscuit, a glass of milk, one orange, one-half dozen stewed prunes.

Dinner.—Plain soups of all kinds.

Rare roast beef, steak, poultry, fish, potatoes stewed with milk, or baked.

Peas, beans, strained stewed tomatoes, mashed cauliflower, spinach, asparagus tips, bread and butter, a cup of milk. (For dessert: Rice pudding, plain bread pudding, custard, tapioca pudding, stewed prunes, baked apple with cream. Raw apples, or uncooked pears and cherries, may be given after the fourth year.)

Supper.—Rice and milk, farina and milk, bread and milk, scrambled egg twice a week, custard or cornstarch, each once a week, ice-cream once a week, bread and butter, a glass of milk.

When the child has eggs for breakfast, they should not be repeated in any form

for supper. Red meat should be given but once a day. When the child has a chop for breakfast, he should have poultry or fish for dinner.

HOW THE CHILD SHOULD BE FED

In the foregoing articles on feeding, the author has endeavored to instruct mothers as to the nature of the food required by the growing child, and the intervals at which food should be given. This, however, is not all that she should know and practise in this line. A child should never dine with adults until he can have adult diet. It is a species of cruelty to expect a hungry child to sit at the table, see and smell the fragrant dishes, and be forced to content himself without complaint with milk toast and mush. The author recalls this custom as a cause of many tears, disputes, and fistic encounters with attendants, which formed no small part of the daily routine of his early life.

In feeding, the spoon or fork must come in contact only with the food and

the child's mouth; when not in use it should be allowed to rest on the clean table-cloth. If it falls to the floor by accident it should be washed in boiling water before using it. Under no circumstances should a feeding utensil be allowed to come in contact with the lips of the nurse or mother; time and again I have seen mothers and nurses sip or swallow the first teaspoonful of the food which is to be given, to determine if it is of the proper temperature. At other times, when the food is not particularly attractive to the child, they will place the spoon in their mouths as though they intended to take it themselves, and exclaim that it is "so good." Others will remove from the spoon with their own lips adhering particles of food.

There are few more reprehensible practices than the foregoing, and if mothers knew the dangers to which their children are thus subjected they would not for one instant tolerate them. Any one of the many forms of pathogenic bacteria may be most readily transferred

to the mouth of the child in this way. It is unquestionably a means of infection with tuberculosis, diphtheria, and syphilis. The germs of tuberculosis and diphtheria are frequently found in the mouths of perfectly healthy adults. They cause no symptoms of disease because of the normal power of resistance of such adults. The resisting powers of the child, however, to these micro-organisms are very slight, and when they are carried to the delicate mucous membrane of the infant's mouth and throat they thrive actively, the child develops diphtheria or tuberculosis, and the family grieve and wonder how the child could ever have contracted the disease.

CONDENSED MILK

Condensed milk should never be selected as a food for a baby if the mother can afford to buy cows' milk and can learn how to prepare and care for it. The child' s natural food is the mother's milk ; this is what he has a right to demand. If mothers' milk cannot be furnished we

must give a substitute which will provide the baby with the nourishment contained in mothers' milk. Analyses by many chemists of thousands of samples of good mothers' milk show that it contains approximately 3.5% to 4% of fat, 1.5% of proteid and 7% of sugar. Condensed milk, diluted one to twelve, *i. e.*, one part condensed milk to twelve parts of water,—the strength taken by a three-months-old child,—will give a food containing .5% of fat and .6% of proteid, and 4% of sugar. Compare these figures with the amount of fat, sugar, and proteid contained in mothers' milk and it will readily be seen that the baby is not getting nearly as much nourishment as Nature would furnish him. If the mixture, using the condensed milk, is made in the proportion of one part condensed milk to eight parts of water — the proper strength for a six-months-old child—there will still be less than 1% of fat, and a lower proteid than in mothers' milk. Condensed milk has its uses, however. Many mothers cannot afford to buy fresh cows' milk. Some

have no refrigerator or ice-box in which to keep it. Condensed milk, on account of the cane sugar which has been added to it, will remain fresh for two or three days after it has been opened. It is a most inexpensive means of feeding the baby. Further, its preparation is exceedingly simple, and many mothers are too ignorant to appreciate the importance of the careful preparation of cows' milk. That magnificent charity, the Straus milk laboratory, which furnishes properly prepared milk at a minimum price, is available for comparatively few of the city's poor.

Condensed milk is for many an absolute necessity; but though children manage to live on it, they never thrive satisfactorily. They all show evidence of some degree of rickets, unless fat in some form, *e. g.*, cod-liver oil or cream, is given in addition, to supplement the food; and very few children can take cod-liver oil during the summer months. There is another class of children for whom condensed milk has served us well at various times. They are the young, delicate

infants, with very weak digestive powers. Their mothers cannot nurse them, wet-nurses are impossible, and, for some reason, the smallest amount of cows' milk, most carefully adapted, cannot be tolerated ; a single teaspoonful of milk or cream in two ounces of plain water, whey, weak milk-sugar water, or barley water produces colic and diarrhœa. I have successfully fed several of these infants on a mixture consisting of one part of condensed milk and twelve parts of water. I prefer the unsweetened variety. For some unexplained reason these children digest the condensed milk without any inconvenience and do fairly well for a few weeks, when the secretion of the digestive juices will be better established and a weak adapted cows'-milk mixture will be borne. Condensed milk is also useful in travelling. During journeys by land and sea, condensed milk with boiled water will furnish satisfactory food for a limited time at a minimum amount of trouble.

The following formulæ may be found of service to those who for any reason are

forced to use a temporary substitute for adapted cows' milk :

First month of life : 1 part of condensed milk to 13 of water.

Second month : 1 part of condensed milk to 11 of water.

Third month : 1 part of condensed milk to 10 of water.

Fourth to sixth month : 1 part of condensed milk to 8 to 10 of water.

After the sixth month : 1 part of condensed milk to from 6 to 10 of water.

These are all maximum strengths ; for many cases a greater dilution will be required. If a child is fed on condensed milk for a longer time than a week, cream or cod-liver oil should be given,—each feeding being supplemented by from one-half to two teaspoonfuls of cream, or from ten to twenty drops of pure cod-liver oil.

PROPRIETARY FOODS

The baby foods on the market, by chemical analysis and clinical observation, are shown to be most inadequate substitutes for mothers' milk. Mothers' milk contains 3.50% to 4% of fat, 1.5% of pro-

teid and 7% of sugar. There is not a proprietary food on the market which, when prepared for use for a child from three to six months of age, contains even 1% of animal fat; they are also very deficient in animal proteids. It will thus be seen what inefficient substitutes we are dealing with. Those which are to be dissolved in water should never be given an infant as a steady diet. With a few it is stated on the package that they are to be dissolved in milk, cream, and water. The milk, cream, and water are directed to be given in such proportion that a satisfactory diet will be supplied. The addition of the proprietary food furnishes the sugar, the child thrives and the proprietary food gets the credit for the nourishment supplied by the milk and cream. The baby is known as such and such a proprietary food baby.

Those foods which are used with water alone are very easy of preparation and this is very apt to prejudice mothers and nurses in their favor.

In selecting a food for the baby it

must be kept in mind that it is nourishment which we seek to give the child, and the composition of mothers' milk must be our guide, for this is what Nature intended the child should have. When this cannot be furnished, we must approximate to it as nearly as possible by the use of cows' milk and cream properly diluted and prepared.

Proprietary foods are sometimes useful in cases of illness; as a rule they are easily digested and may aid us as a means of nourishment until more substantial food can be taken.

PEPTONIZED MILK

Milk is said to have been *peptonized* when it has been subjected to the action of a digestive ferment, *i. e.*, pre-digested. Milk thus treated may be "peptonized," but it is not *pre-digested* to the extent of being of any value to the child who cannot digest the curd of cows' milk. The peptonizing of milk is theoretically indicated and should be of value in treating those cases referred to under the head of

"*Malnutrition among Bottle-Fed Infants,*" —those who cannot digest the smallest quantity of cows-milk proteid. In these cases I have used the various peptonizing preparations time and again without any success whatever. If peptonized milk were of any value it would be of great service in feeding these infants Children who do not need peptonized milk do well on it

MILK FOR TRAVELLING

How to prepare and care for the baby s food preparatory to and while travelling, is a puzzling question among mothers. It is eminently desirable that no change be made from the milk regularly used, but this will not be fit for use unless it is kept on ice, regardless of the season. The Walker-Gordon Laboratory of New York City furnishes at a trifling expense small ice-boxes which contain sufficient space for four days' milk supply, and which can conveniently be carried on cars and boats. They also have a larger box with a capacity of twelve quarts, which may be

used for an ocean voyage. The small boxes will need refilling once or twice a day with ice, which can easily be secured from porters or other attendants on boats and trains. The larger boxes for ocean voyages, if packed with ice and placed in the cold-storage room in the vessel, will not need repacking during the trip. The milk prepared for a journey longer than twenty-four hours should be boiled twenty minutes and kept at a temperature of 40° F., or lower. When this is done the milk will be safe for use for ten days. Those who, for any reason, cannot avail themselves of milk thus preserved, will find in condensed milk a fairly good substitute. If kept covered, a can of condensed milk will remain sweet for three days after being opened. Formulæ suited for the various months of infancy will be found under the heading "*Condensed Milk*," page 64.

DIET DURING ILLNESS

During even a very slight illness in a young infant or "run-about" child, its

digestive capacity is greatly diminished. This is a fact but little appreciated or if appreciated, rarely acted upon Infants ill with pneumonia, scarlet fever, measles or summer diarrhœa, are usually given their accustomed diet, if they will take it. If the patient is breast-fed he is nursed as often and as long as in health. If bottle-fed, his food is of the usual strength and quantity. Many times children with fever and consequent thirst are given more milk than when well. In this way severe gastro-intestinal disorders are often started which add an unpleasant, if not dangerous complication to the existing disease.

In severe illness, with fever, the strength of the food should be reduced from one-third to one-half, by the addition of boiled water. If the baby is taking six ounces of an adapted milk, we should throw out three ounces of the milk mixture and add three ounces of water, so that the quantity remains the same. In an illness of less severity the dilution should be proportionately smaller. If the child is thirsty, boiled water may be given at any time.

If the patient is a nursing baby, the time allowed for the nursing should be reduced and water given by teaspoon or bottle between the nursings.

In summer diarrhœa, the milk must be discontinued upon the appearance of the first symptoms and other nourishment substituted. Children of the "run-about" age may be given milk, broths, and gruels during any severe illness, except one involving the gastro-intestinal tract.

VOMITING

A sudden attack of vomiting may usher in any serious illness, with fever. Thus, it may be the initial symptom of pneumonia, scarlet fever, or meningitis. By far the most usual cause, however, will be found intimately connected with the stomach, usually an acute attack of indigestion. Bottle-fed children furnish the greatest number of patients, as these children are almost always overfed, and more or less badly fed. With the onset of a sharp attack of vomiting, particularly if it occurs during hot weather, the milk

diet should immediately be discontinued. Small quantities of boiled water, one-half to two ounces of barley water or rice water, or plain broths may be given every hour or two In the obstinate cases, quite a period of rest should be given the stomach. From twenty-four to thirty-six hours will often be necessary before the child will be able to retain even a teaspoonful of water. No milk should be given until the vomiting has ceased for at least two days. When the milk is resumed it should be diluted five or six times with water and at first only a small quantity of the mixture given. In many of these cases a stomach washing will speedily correct the trouble. If the stomach bears the food well its strength may gradually be increased by an additional half-ounce of milk daily until the former diet is resumed.

HABITUAL VOMITING

Many children regurgitate or vomit a portion of every feeding This means one thing always,—the child is overfed.

He is given the food too strong or the amount is greater than his capacity. In either case the stomach relieves itself. Many of these children who regurgitate after each feeding thrive finely in spite of the loss. Enough is retained for their nourishment, and they gradually become accustomed to the strong food and no serious harm results. Such a stomach, however, is liable to behave very badly during hot weather. During any illness, in fact, which taxes the patient's strength, the disordered stomach stands ready to furnish an unpleasant complication.

The treatment of habitual vomiting in the bottle-fed is by a suitable adaptation of the food. Among the breast-fed the breast-milk will have to be examined and, if found unsuitable, corrected if possible. If too frequent nursings or night nursings have been allowed they should be discontinued.

MALNUTRITION AND MARASMUS

By *malnutrition* we understand that condition in which a child for some reason

fails to gain in weight or loses steadily for a considerable period of time. Cases present all degrees of severity, from those in which there is merely a temporary loss of weight, to those of an extreme degree of malnutrition, which latter condition we term *marasmus*. A marasmatic infant presents one of the most pitiful pictures we are called to look upon: the dry skin drawn tightly over the fleshless bones, the sunken eye, the distended abdomen, the anxious, tired expression, and the whining cry furnish a picture of starvation so pathetic that only those hardened by long familiarity with such cases can look upon them unmoved.

When the history of such infants has been looked into it will be learned that errors in feeding contributed largely to bringing them to their woful condition. Many of these children came into the world strong and vigorous, the mothers were unable to nurse them, and the food selected did not agree with them. Cows' milk, perhaps, was given, unsuitably adapted,—it usually is given too strong to

young infants,—at any rate it disagreed, and the proprietary meal foods were brought into use, one after another, as they were suggested by well-meaning friends, each to do its share of damage and in turn to be discarded. The stomach bore the ill-usage for a time, but soon became so disturbed that the digestion of rational food was out of the question. Many of these children finally reach the point where pre-digested foods fail to be assimilated; such cases, of course, are hopeless.

It is a source of amusement oftentimes to note the assurance with which laymen will advise a mother that such and such a food is the only one for the baby, when they possess neither the intelligence nor the training necessary to judge of the child's digestive peculiarities or capacity; in fact, they know no more of the child's requirements or the chemical composition of the food suggested, or even what should be the composition of the baby's food, than does the unfortunate babe itself.

If there is inherited weakness, or a low

vitality from any cause, the downward course may be very rapid. There are two or three weeks of suffering, and then the end. If seen before the vital powers are at too low an ebb, these children, by very careful and intelligent management, can be saved. They should be handled only when necessary for dressing and bathing. The nourishment given must at first be very weak, and its effects carefully watched from day to day, the strength and amount of the food being increased or decreased, as may be found necessary. A brine bath should be given daily, — a tablespoonful of salt to a gallon of water. The temperature of the water should be 100° to 105° F. The child should remain in the water ten minutes, being rubbed well with the hand while in the water. When removed, it should be placed in a large bath towel and dried quickly. When dry, rub one tablespoonful of unsalted lard or goose-grease into the skin. Flannel should be worn next to the skin except during very warm summer weather.

Marasmatic children when sleeping

should not be allowed to remain long in one position; they should frequently be turned from the back to the side, and from one side to the other. A hot-water bottle to the feet will often be necessary when sleeping. To a child suffering from malnutrition, fresh air is as indispensable as food. During the warm weather if he can be protected from the sun the child should be kept out of doors from morning until night. During the entire year he should sleep with the window open. During the winter months he should be taken out of doors for at least one-half hour every pleasant day. When, on account of the inclement weather or excessive cold he cannot go out, he should be dressed as for the daily outing, taken into a room all the windows of which have been open for at least one-half hour; here, placed in a baby-carriage, and warmly covered, with a hot-water bottle at his feet, he is allowed to enjoy the fresh air for an hour or two each day. This brightens the eye, brings color to the cheek, and an invigorated baby returns to the nursery.

SUMMER DIARRHŒA

Summer diarrhœa is the cause of more deaths among young children in our large cities than any other one factor. So prevalent and so dangerous an illness should be better understood by the laity than is the case at the present time. Every illness of this nature must be considered as a case of poisoning. The vomiting and diarrhœa are conservative efforts on the part of Nature to get rid of the offending material. The poisoning may result from direct infection. It may be due to bacteria-laden milk, unclean feeding apparatus, or to any means whereby poisonous germs find entrance into the gastro-intestinal tract.

There may also be an indirect infection or self-poisoning—an auto-intoxication. Heat plays an important part in these cases. The child is greatly depressed; the digestive processes are not properly carried on—the milk taken from the breast or bottle is not acted upon by digestive juices of the usual strength and volume; decomposition takes place; poisons are

generated and absorbed, producing fever and prostration; the intestine endeavors to empty itself of the offending material and diarrhœa results.

Cholera infantum, inflammation of the bowels, dysentery,—all very bad terms but in common use,—are due primarily to the causes above mentioned. Such being the nature of summer diarrhœa, the duties of the mother in such cases should be clearly understood. The intestine must be relieved of as much as possible of the material which is causing the trouble. For this purpose give one teaspoonful of castor-oil, and nourishment which will not furnish a fertile soil for the growth of bacteria. For this reason *milk must be stopped* with the first symptom of the trouble. The mother will never make a mistake in these cases, in fact, many a life will be saved by an immediate dose of castor-oil and by promptly stopping the milk diet before the physician arrives. Milk, in addition to furnishing a medium for the growth of bacteria, forms into tough curds which must pass

the entire length of the intestinal tract, exciting a very active peristalsis, causing pain and an increase in the number of passages. The diet substituted for milk should consist of some cereal water plain or dextrinized[1]; either barley, wheat, or rice may thus be used; broths, whey, or substances of like nature may be given alternately or combined with the cereal waters. Salt should be added to the barley water if it is given plain. I prefer to give one or two ounces of chicken or mutton broth with the barley-water. A teaspoonful of sherry wine or one teaspoonful of liquid peptonoids may be added to the barley-water. Broths must be given in small amounts, as not infrequently they have a decidedly laxative effect.

It is not advisable to give one food continuously, as the child will tire of it. The addition to the barley-water of one of the substances suggested will so change its taste that, if necessary, the

[1] Dextrinization is best accomplished by the use of cereo—a diastatic preparation made for this purpose.

diet may be continued for several days. The quantity should correspond to the amount of food taken in health, but the intervals between feedings should be shorter,—every two hours if practicable. For instructions for cooking the cereal water, see Formula, pages 261–262.

A patient is not to be considered out of danger nor should the milk diet be resumed until the stools are normal and not over two or three daily. In many cases milk must be excluded for two or three weeks. When it is resumed care must be exercised in not giving too strong a mixture; many a relapse is due to this error. The first day not over one-quarter ounce of milk should be given in each feeding of the barley-water. If this causes no disturbance one-half ounce may be given the next day, increasing from one-quarter to one-half ounce daily, if there is no return of the diarrhœa, until the customary strength is reached. Many children will not be able to digest nearly as strong a mixture as they were taking before their illness,

and the diluted milk mixture will have to be supplemented by the use of dextrinized cereal gruels, cereal jellies, scraped beef, the white of an egg, and other easily digested substances. Every year I have patients who, after such an attack, cannot take a particle of milk without harm until the autumn is well advanced.

Washing out the bowels once or twice a day is also very helpful in the treatment of these cases if the stools contain any blood or much mucus. This is done as follows: A No. 14 soft-rubber English catheter, one that will not bend upon itself, if properly used, is attached to a fountain syringe. The bag should be held three feet above the patient, who should lie on the left side with the legs well drawn up. The tip of the well-oiled catheter is passed into the rectum a distance of two inches, when the water is allowed to pass in slowly. The water will distend the parts and facilitate the further introduction of the tube. Press the folds of the buttocks together until the colon is filled. This, in a child eighteen months

of age, will require from twenty-four to thirty ounces of water. When not less than one pint has passed in allow the water to pass out alongside the tube.

A word regarding the prevention of summer diarrhœa. It is not enough that the child be given properly prepared pasteurized or sterilized milk or breast-milk, —he must be made comfortable during the hot weather. The clothing should be of the lightest. On very hot days, if in the country, he should be kept in the open air, in the shade; if in the city, the coolest room in a house or an apartment is far better than the dusty streets. Whether in the city or country, on very hot days two or three fifteen-minute spongings with water at 60° F will add greatly to the child's comfort.

Further, we know that the digestive capacity is lessened during the heated term, and the milk should be reduced in strength from one-quarter to one-third, adding boiled water to take the place of the milk removed

As infection may be carried to the

feeding utensils by the hands of the nurse or mother, she should always wash them most carefully with soap and water before handling bottles or nipples, or preparing the infant's food. Inasmuch as other children may become infected, or reinfection take place in the one already ill, a child with summer diarrhœa should be isolated.

BATHING

The newly-born child should be given a basin bath of lukewarm boiled water and Castile soap, until the cord falls off and the navel heals. When this has taken place the tub bath may be given. In New York City the daily bath is thought to be almost as important as fresh air or food. Only boiled water should be used. The temperature of the bath for the very young infant should not be below 95°, nor above 100° F. Very young children should not be kept in the water more than three minutes. After the third or fourth month a temperature of 90° or 95° F. is best, the child being kept in the water about ten

minutes. At this age I prefer to have the tub bath given at night just before the child is put to bed. A basin bath may be given in the morning. When the child is a year old and fairly vigorous the temperature of the water at the beginning of the bath should be 90° F., which should gradually be reduced to 80° F. by the addition of cold water, the child being vigorously rubbed with the hand while in the water. The temperature of the room should be from 76° to 80° F. during the bath, and windows and doors should be closed. When removed from the tub the baby should be dried quickly and thoroughly, and the folds of the skin should be well powdered. A sponge should never be used in any portion of the bathing process. It should never be included in the nursery outfit. It is never clean after once being used. Some children have a dread of the bath and cry frantically when placed in the water. This is due to fear and may easily be overcome by placing a sheet over the tub and lowering the child on it into the water.

Baths are of use for purposes other than cleanliness.

Tub baths for fever.—Place the child in water at a temperature of 95° and reduce to 75° or 80° by the addition of ice or cold water. The duration of the bath should not be more than fifteen minutes, constant friction being maintained during the entire process.

Basin bathing for fever.—Add eight ounces of alcohol to a quart of water at a temperature of 70° F. The child is stripped and covered with a flannel blanket and the entire body sponged with this solution for ten or fifteen minutes.

Either the tub bath or the basin bath may be used by the mother in case of sudden high fever—104° to 105°—before the physician arrives. The repetition of the baths, the use of cold packs and other means for the reduction of fever, should afterward be left entirely to the physician.

Bathing for comfort in hot weather.—The basin and tub baths may also be used by the mother as a means of relief during very hot weather. Two or three basin

baths a day in this trying season will give the child much relief and help him to pass safely through it. The very young feel the extreme heat most acutely, and endure it with difficulty. I know of nothing that will give a restless, uncomfortable, heat-tormented child such a refreshing sleep as a cool basin bath.

Mustard bath.—A mustard bath is prepared by adding a heaping tablespoonful of mustard to three gallons of warm water. The mustard bath is one of the means of treating convulsions; it will also be found useful for children who sleep badly. Two or three minutes in the mustard water followed by a brisk rubbing immediately before going to bed is oftentimes all that will be required to induce refreshing sleep.

Brine bath.—A brine bath—an even tablespoonful of salt to one gallon of water—is of great service with very delicate, poorly nourished children. Its action is that of a tonic. If the child is thoroughly soaped and washed with plain water and then immersed in the brine bath, no further tubbing is necessary. The child

should be kept in the bath for ten or fifteen minutes, constant friction being continued during the entire time.

Soda bath.—The soda bath is of some service in cases of prickly heat, from which many children suffer during the summer. A tablespoonful of bicarbonate of soda should be added to each half gallon of water used. The temperature of the water should be that to which the child is accustomed. From two to four minutes in the water suffices. There should be little or no friction of the skin. The child should be dried with soft towels.

Bran bath.—The bran bath is of much service in prickly heat. One-half cup of bran is mixed with the water in the bath-tub and the same method employed as for the soda bath.

Starch bath.—The starch bath is also useful in prickly heat. One-half cupful of powdered laundry starch is mixed with the water in the bath-tub and the same method employed as for the soda bath.

EARACHE

Infants and young children are very susceptible to attacks of earache. They usually occur in children who are suffering from some inflammatory condition of the throat or nose. Such however, is not necessarily the case. I have seen earache in children who apparently were in perfect health. In the very young the only symptoms of the trouble may be restlessness, fever, which is usually present, and pain, which is manifested by crying. I have repeatedly seen an attack so severe as to cause an infant to shriek with pain. An older child, in addition to the above, will raise the hand to the side affected or point to the painful ear. The child usually is much disturbed if the ear is touched or manipulated in any way. While severe pain is the rule, it may be absent; there may be loss of appetite, high fever and restlessness for three or four days with no other sign of illness, and no evidence whatever of pain, when suddenly one discovers a yellowish discharge from the ear, and all symptoms disappear.

In case of an attack of earache, dry heat is of much service. Rest the ear on a hot-water bag, or apply a salt bag, made by sewing together two pieces of muslin about three by five inches in size and filling it one-half full with salt. The bag and contents are then pressed flat, heated, and applied to the ear, the salt retaining the heat for a long time. Another device is to fill the finger of an old glove with salt, heat it, and place the tip in the ear. As an extra precaution the mother or nurse should first test it in her own ear. A douche at 110° F. may also be of considerable service in these cases ; in my experience, earache is best relieved by this means. The child should be pinned in a sheet, and lie on its back, with its head on a level with or a little lower than the body. A basin protected with a towel or absorbent cotton is placed under the ear. One assistant is required to steady the head, as the child will be sure to struggle. The douche bag—an ordinary fountain syringe, should be held not more than two feet above the child's

head. From one to two pints of water may be needed. The tip of the syringe is placed about one-quarter of an inch from the orifice of the canal and the water is allowed to flow into the ear until the child is relieved or until the bag is empty. Such a douche may be repeated every hour until medical aid arrives.

Earache is usually due to the presence of pus or other fluid behind the drum membrane. This causes pressure within the ear which may require a slight operation for its relief.

THE CARE OF THE EYES

The eyes should always be well protected from the sunlight, the young infant never being allowed to lie with a bright light from a window streaming into its face.

The eyes should be washed once daily with plain boiled water. A piece of soft old linen should be used and immediately burned. Before touching the eyes for any purpose, the hands must be washed with hot water and soap.

No other home treatment of the eyes is allowable, however slight the ailment. The custom of putting breast-milk into the eyes cannot be too strongly condemned. Teas of various kinds and proprietary or home-made eye-washes should never be used. Over 90 per cent. of the cases of blindness develop during early life, nearly all being due to neglect or bad management.

DENTITION

Much has been written about the process of teething. Nearly all the ills of childhood, other than the contagious diseases, have been attributed to this cause. Not only the laity, but physicians, are often inclined to attribute this or that ailment to teething. Many a diagnostic puzzle has been smothered under the diagnosis of dentition. Observations covering the teething period of several thousand children in institution, out-patient, and private work, among all classes and conditions of children, have taught me to divide teething babies into three groups:

the breast-fed, the well-managed bottle-fed, the badly fed.

The breast-fed.—In the great majority of the breast-fed, the teeth appeared at the proper time, with little or no disturbance. Perhaps there was a period of irritability and restlessness for a few days before the teeth came through. In many, the teeth appeared without the slightest inconvenience, and that a tooth had been cut was discovered while washing or dressing the baby. In a very few breast-fed babies there were distinct irritability and restlessness, with fever and a slight diarrhœa, all of which subsided when the teeth appeared.

The well-managed bottle-fed, such as were given cows' milk and cream, properly prepared and diluted, teethed, as a rule, without inconvenience. Some showed a tendency to slight gastro-intestinal disturbance, which was relieved by diet and simple medication. The cases which occasionally developed severe intestinal disturbances were those which cut the first molars or several other teeth at one time

during the hot weather. Such infants must be kept on a very light diet until the teeth are through, or until the onset of colder weather.

The badly fed.—These were nearly all bottle-fed. They were given cows' milk improperly prepared or at too frequent intervals. Only condensed milk and the proprietary foods had been given some of these infants. To this class belong the great number of infants who are given bread, meat, potatoes, and sweets before the digestive organs are ready for such food. It is these badly fed, debilitated, rachitic infants who are said to "teeth hard." They teeth late, cut several teeth at one time, and have attacks of convulsions, diarrhœa, and vomiting during the teething period. There is no doubt that the alimentary tract is predisposed to troubles of a catarrhal nature during active dentition. If the baby has been properly fed and is in fair health, this tendency is so slight that it probably will not be noticed. If, on the other hand, the digestive tract is weakened from abuse,

vomiting and diarrhœa often result. The majority of children who belong to the third group are rachitic, and rickets always means enfeebled resisting powers. Rachitic children teeth late. A rachitic boy under my observation cut his first tooth during the ninth month, and with the eruption of this tooth and with each of the five that appeared at intervals of two or three weeks during the next five months, an attack of vomiting and diarrhœa occurred, each attack subsiding when the tooth pierced the gum.

Irritability and restlessness, slight fever and gastro-intestinal derangements, were the only unpleasant effects of dentition in any of my patients who were in fair health. The irritability, restlessness, and fever appeared to be due directly to dentition. Indirectly, teething may be a factor in gastro-intestinal derangements. The process is painful, the digestive organs fail to act properly, and trouble follows. I have never known dentition to cause bronchitis, eczema or skin eruptions of any kind.

The opinion is very general among the ignorant, that bronchitis needs no treatment, and that diarrhœa is beneficial during the teething process. These beliefs, equally dangerous, have been the cause of an incalculable amount of harm: as the result, many lives are lost yearly. I have time and again seen children die with summer diarrhœa who were brought for treatment when no hope could be given. The mother had been told and believed that diarrhœa was beneficial to the teething child, and that if the diarrhœa were stopped the child would be thrown into convulsions.

When the form of a tooth can be made out pressing on the gum, and the child is fretful and feverish, the digestive capacity is lessened, as previously mentioned. When such is the case the nourishment should be temporarily reduced one-half by the addition of boiled water. If the child is breast-fed, the nursing period should be reduced to five or six minutes, and boiled water given to drink between feedings. If a tooth is trying to force its way

through a thick, resistant gum, a great deal of pain and discomfort will be spared the child if the tooth is assisted in its progress. This is best accomplished by the use of a clean towel, which is placed over the finger and vigorous friction brought to bear over the sharp edge of the tooth. It is quicker and less painful than lancing, and the gum will not close over the tooth.

THE TEETH

Twenty teeth comprise the first set. In the well child the first tooth usually appears between the sixth and the eighth months; the first teeth may, however, in perfectly normal cases, come earlier or much later. I have known well, vigorous children who did not get a tooth until the thirteenth month. The first teeth are usually the two lower central incisors; generally, the four upper incisors and the two lower lateral incisors appear between the eighth and the tenth months. The first four molars appear between the twelfth and the fifteenth months; the eye- and stomach-teeth between the eighteenth

and the twenty-fourth months; the four posterior molars between the twenty-fourth and the thirtieth months. This regularity in the appearance of the teeth is by no means constant even in well children. I have in several instances seen the upper lateral incisors appear first. In delayed dentition the teeth are very apt to appear irregularly.

CARE OF THE TEETH.

As soon as the teeth appear they require attention. Until the second year is reached the mouth should be washed out at least twice a day with a solution of boracic acid,—one ounce to a pint of water. This can best be done by means of absorbent cotton wound around the tip of a clean index finger and afterward dipped into the solution, when it should be applied with gentle friction to the gums and teeth. When a child is two years old it is well to begin the use of a soft tooth-brush, and a simple tooth powder composed of the following ingredients:

Precipitated chalk, 1 ounce.
Bicarbonate of soda, 1 drachm.
Oil of wintergreen, a few drops.

The child should also be instructed early as to the proper use of a quill toothpick.

The milk-teeth are lost between the sixth and eighth years. They should not decay, but fall out or be forced out by the second set. The teeth of every child over two years of age should be examined by a dentist every six months. If cavities are discovered in the first teeth they should be filled with a soft filling. Children must not be allowed to crack nuts with the teeth or bite on any hard substance as the enamel is easily broken and decay quickly follows.

THE HAIR

Whether the child should wear the hair long or short is a point upon which the doctor is likely to give unsought advice. There are two reasons why a child's hair should be kept short.

1. From the standpoint of comfort.

During the hot months children perspire very freely both by day and by night. The heavy mass of hair which falls about the neck and shoulders adds greatly to the warmth and discomfort. I find that many children with long hair are poor sleepers and are irritable and hard to please when awake. In winter the child is very apt to perspire about the head and neck in active play, and runs a greater risk from exposure than if the excessive perspiration did not occur.

2. The hair should be kept reasonably short, because then the scalp can be kept in a much healthier condition, and a much better growth of hair assured in later life.

NURSERY-MAIDS

The mother who can afford the expense of a helper should never take entire charge of her baby; nor should she share this duty with the maid of all work if better assistance can be secured. The child requires more attention than any one person should bestow. If one person is constantly in charge of a child it will

either be neglected or the health of the mother or nurse will suffer and consequently her services be less efficient. Many a young mother has sacrificed her health because of a false sense of duty in this respect. The close confinement in itself would ruin her health and make her prematurely old. The children that are born later have less vigor, are more susceptible to illness, and start out handicapped in life as a consequence. The constant attention of the mother is not necessary : in fact, it is often injurious to the child. She is apt to handle the child too much, to overentertain it, to overnurse it. A bright young woman should be secured as soon as the monthly nurse leaves, to assist in the care of the child. If she is a trained nursery-maid who has had previous experience of the right kind, she will be invaluable. In case a trained assistant is not to be obtained, any intelligent young woman of cleanly habits, and who is fond of children, may be trained at home in a few weeks.

THE TRAINED NURSE

If possible, a trained nurse should be employed in every severe illness of childhood. She may alternate with the mother or nursery-maid in the care of the child. If the case is very urgent, two trained nurses should be employed. The nurse must never be expected to work for more than twelve consecutive hours. A tired nurse should never be in charge of a sick baby.

The employment of a trained nurse does not mean that the mother may not perform many little offices for the patient, but the trained nurse should be in charge, and her opinions respected.

Many an excellent mother makes a very poor nurse for her own child during a severe illness. Her great interest and anxiety impairs her judgment. She is apt to become confused and fail to meet emergencies. A mother who is useless for a like office in her own household oftentimes makes an excellent nurse for her friend's child. The mother in the capacity of a nurse for her own infant is

apt to fail under some of the following conditions : She is inclined to put more clothing on the baby than the doctor advised. If a window is the means of ventilation, she has a strong inclination to close it a little beyond the point which the physician marked with a lead-pencil. The temperature of the sick-room is often kept higher than is good for the baby. Offices, the performance of which cause the child discomfort, are often not thoroughly attended to, such as washing the eyes, sponging off the patient in fever, syringing the ears, and adhering to a greatly restricted diet. These, and a few like offences, are pardonable in the mother, but they show us that in a severe illness trained help is indispensable. Further, I am very sorry to say that sometimes, influences against carrying out the physician's directions in important particulars are successfully brought to bear upon the mother by well-meaning relatives and friends who possess no knowledge whatever of the illness in question.

ADENOIDS

Adenoids are tumor-like growths that develop at the junction of the upper portion of the posterior pharyngeal wall and the vault of the pharynx. They may simply cover the surface of the parts in a spongy layer or they may fill the entire naso-pharyngeal space, completely blocking the passage from the nose to the throat. They are not to be considered as new growths but rather as hypertrophies, or overgrowths, of the mucous glands and tissues of the parts. They may vary in size from a flaxseed to a walnut. Among the causes of adenoids may be mentioned the use of the "pacifier" in infancy, repeated "colds" in the head, breathing the dust-laden air of our large cities, malnutrition, and unhygienic living. While the taking of cold is a factor in the development of adenoids, my observation is that predisposition plays an important part. Many children have a tendency to glandular enlargement; in fact, in New York City, a large percentage of the children under ten years of age have

adenoids. In a child under two years of age the naso-pharyngeal space is a very narrow slit; and since the majority of children up to the eighteenth month of life are sucking on something the greater part of their waking hours, the soft palate is forced back against the posterior pharyngeal wall, interfering with the drainage of the parts, and on account of the friction of the opposed surfaces congestion and irritation follow, resulting finally in a general hypertrophy.

Very young children may have adenoids. The youngest patient that I have operated upon was eight months old. The majority of cases occur in children from eighteen months to six years of age. A slight amount of adenoid growth may cause no symptoms. A few summers ago I examined the throats of forty children between the ages of two and five years, who came for treatment for other conditions. In thirty-seven adenoids were present. In twelve operation was advised, and in five operation was performed. In fifteen the growths were not sufficiently

large to justify operation in the absence of annoying or dangerous symptoms.

The presence of adenoids is perhaps most often manifested by symptoms of chronic cold in the head. There is a great deal of discharge from the nose. The child has snuffles all winter. During summer there is little if any trouble. The child is said to take cold easily. The slightest exposure will cause a running at the nose. Cough is often associated with the nasal discharge, or it may follow it. The cough is worse at night; in fact, it often is not noticed until the child goes to bed. Such a cough was formerly known as "the nervous cough" or "the stomach cough."

If the growths are large, we have mouth-breathing added to the other symptoms. The child breathes through the mouth both day and night for the reason that the breathing space through the nose is choked. The night mouth-breathing gives rise to snoring; some of these children snore like adults. Almost every snoring child will be found to

have either adenoids or enlarged tonsils, or both.

In advanced cases the appearance of the face of the patient is characteristic. The habitual open mouth gives the face a stupid expression. In fact, such children are apt to be dull. The nostrils are small and pinched. The upper lip is usually thickened. The voice is also affected, there is a decided nasal twang, and articulation is sometimes impaired. The child has trouble in blowing his nose. Occasionally adenoids are the cause of very severe nose-bleed. In a small proportion of the cases the hearing is impaired. Bed-wetting may be due to adenoids. Recently a writer reported seven cases of inveterate bed-wetters, all cured by the removal of the adenoids. These children are more susceptible to diphtheria, and if they contract the disease it is apt to be more severe. For adenoids of any degree of severity, complete removal is the only treatment. Sprays and the various local applications are absolutely worthless. The operation is practically without danger.

ENLARGED TONSILS

Chronic enlargement of the tonsils is almost always associated with adenoids and is responsible in a degree for their presence. We see many cases of adenoids, however, in which there is no tonsillar enlargement. Predisposition and repeated attacks of acute tonsillitis lead to chronic enlargement of the tonsils. Enlarged tonsils, when associated with adenoids, do not change the character of the symptoms of adenoids except to aggravate them; therefore they should be removed as well as the adenoids. All other treatment in young children is useless. The operation in skilful hands may be said to be practically without danger. Parents always dread the operation, but the relief afforded the suffering child, and the knowledge that a serious obstacle to the child's growth and development has been removed, will repay them for their hours of anxiety. Gargles and sprays are of little or no value in chronic enlargement of the tonsils.

MILK IN INFANTS' BREASTS

It is not at all uncommon for an infant's breasts, at birth, to contain a substance resembling milk. When this occurs, the breasts are to be left alone and the milk will disappear. It is quite a common belief among hospital and dispensary patients that the milk should be pressed out. This is very wrong. In two cases I have known abscesses to develop after this treatment by a midwife, and in one case the child nearly lost its life.

TEMPERATURE, AND HOW TO TAKE IT

The normal rectal temperature of an infant varies between 98.5° and 99°. The temperature should be taken in the rectum. The mouth is impossible, the groin and axilla absolutely unreliable. The child should lie on its stomach either in its bed or across the nurse's lap. Both the anus and the bulb of the thermometer should be well oiled. The bulb is passed into the rectum so that the mercury *cannot be seen* and allowed to remain three

minutes. If the child kicks or struggles some one should hold his legs. The thermometer should be washed with a one-per-cent. solution of carbolic acid after using.

APPETITE

It may be safely said that a well, vigorous child is a hungry child, and nearly every child may be made thoroughly hungry three times a day by suitable food at proper intervals. The children who come under my care for poor appetite, without evidence of disease to account for it, are, almost without exception, improperly fed. They are often given unsuitable food at meal-time, when they are loaded down with sweets and pastries; but the chief error is eating between meals. This habit has ruined more appetites and has been the cause of more stomach disorders than any other one factor. It is surprising what a large amount of candy, sweet crackers, and the like are disposed of in many households. Every year I am called upon to treat cases of loss of

appetite in "run-abouts" from eighteen months to three years of age, who have what I have designated *the milk habit.* These children drink from five to six pints of milk a day, and refuse all other food. The milk satisfies the appetite but does not furnish the nourishment required for the rapid growth that takes place at this time, and the child in consequence suffers from malnutrition. He is pale, thin, and sallow in appearance, the sleep is poor, and the child is irritable and hard to please. We also see children at this age who suffer from improper nutrition on account of too restricted a diet. They take other food than milk, but not in sufficient quantity or variety. Some will refuse all kinds of vegetables, others will refuse all kinds but one or two; some will not take stewed fruit; others will not touch meat or eggs, no matter how they may be prepared; some will take but one cereal, others will refuse cereals altogether. The child's whims in these respects must never be catered to. He is to take what is placed before him or go

without until the next meal. Likes and dislikes for various articles of diet are largely a matter of education, and the child may, and should, be taught to eat everything that is good for him. A little firmness in compelling him to go hungry for a few hours will soon do away with any childish fancy, which may be the cause of considerable harm. These children are rapidly growing, and for proper growth and development require a mixed diet. If the child is wedded to milk and refuses everything else, the milk must temporarily be discontinued. Some children with a poor appetite for solids will drink a glass or two of milk at the commencement of a meal. This satisfies the appetite for the time and nothing more will be taken. With such children the milk must be kept out of sight until the meal is completed, when one-half pint may be given.

I have treated quite a number of cases of poor appetite and milk appetite in children otherwise well, in the following manner: The child is undressed and

placed in bed and put under the care of one person as though he were very ill. The object in placing the patient in bed is to prevent his getting food other than that ordered. He is allowed water to drink in plenty. For the first day he is given four ounces of plain chicken or mutton broth every three hours. The second day he receives six to eight ounces of the broth at three-hour intervals. On the third he is usually ravenously hungry and he is then given three or four good meals, when, if he has any special dislike for any article of diet, that is included in the first meal. In such cases it is surprising with what favor the formerly despised cereal, meat, egg, or vegetable, will be looked upon, and it will thereafter have a cherished place in the child's heart. Some mothers will not be a party to such heartless treatment, as they are inclined to call it, but this is a wrong view to take of it. A complete change of diet for a day or two would often be of benefit to all of us. With the child the advantage derived from thus

learning to enjoy a mixed diet will favorably influence his health for the rest of his life. Change of climate, fresh air, out-of-door exercise, suitable food at regular intervals—all favorably affect the appetite.

HABITS

THE PACIFIER; EAR-PULLING, AND MASTURBATION

Babies acquire habits most easily and at a very early age. Whether the habits are good or bad depends more upon the child's attendants than upon the child itself. If properly trained—and the training must begin at birth—a baby will acquire the habit of taking his food at regular intervals by day and by night, and he will also acquire the habit of going to sleep and waking at regular intervals. As a result of a careful *régime* regarding feeding, sleep, bathing and airing, and the performance of its various functions at stated times every day, the baby will soon develop into a "little machine," as one mother called her babe. Such a child causes no trouble and thrives far

better than one who is fed every time he cries, day or night. A baby that requires constant entertaining when awake, and that sleeps only when exhausted, usually has another bad habit,—that of being held constantly in arms. A baby should be handled very little, — just enough to give it exercise. It will learn to amuse itself at a very early age if given an opportunity.

The "pacifier" habit, — the habit of sucking a rubber nipple, is an inexcusable piece of folly for which the mother or nurse is directly responsible. The habit when formed is most difficult to give up. The use of the "pacifier," thumb-sucking, finger-sucking, etc., make thick, boggy lips, on account of the exercise to which the parts are subjected. They cause an outward bulging of the teeth and a narrowing of the jaws, which are not conducive to personal attractiveness. Nature has not been so lavish of her gifts to the great majority of mankind that they can afford to trifle with her handiwork. Furthermore, the "pacifier" is

often a menance to health. If there are two or three young children in the family it is frequently passed around without other means of cleansing than being drawn a couple of times across the nurse's sleeve. This novel method of disinfecting the "pacifier" may be seen in actual use in the Park any pleasant day, and I have often seen the mother or nurse moisten the "pacifier" with her own lips before giving it to the child. I have seen young children fight for the "pacifier," one taking it from the mouth of another! It may readily be conceived what a boundless source of harm this little instrument may be, when every sort of disease known to childhood may be transferred by it. Thus it may act as a means of transmitting tuberculosis, syphilis, diphtheria, and many other ailments of minor importance.

Adenoids, referred to in another chapter, are often the result of thumb-sucking or the use of a "pacifier." The pressure exerted in sucking forces the uvula against the posterior pharyngeal wall; this irritates and stimulates the glands of the part,

which in time enlarge, and adenoids develop.

To break the child of the "pacifier" habit, burn the "pacifier" and do not buy another, as is sometimes done. For thumb-sucking and finger-sucking, bandage the hands and moisten the bandage occasionally with a solution of quinine.

A few children develop the *ear-pulling* habit. It is always one ear and usually a certain portion of the ear which receives attention. Sometimes it is the lobe and sometimes the upper portion. The child pulls on the ear the greater portion of its waking hours. As a result of this practice, I have seen ears drawn entirely out of shape. Bandaging the hands so that the fingers cannot be used to grasp the ear is the best means of breaking the habit.

Occasionally children are met with who have a mania for placing *foreign bodies in the nose and ear.* Shoe buttons are the favorites, although beans, pieces of coal, pebbles, and various other kinds of buttons serve the purpose when shoe buttons are scarce. The habit is best controlled

by a vigorous spanking following each offence.

Masturbation is one of the most injurious of habits. It consists in an irritation of the genitals by manipulation, by leg-rubbing, or by pressing the parts against some pointed object. Under the age of six years masturbation is more common in girls than in boys. My youngest patient was a girl only six months old. If the habit is not detected, masturbation may be practised for a long time and repeated many times a day. As a result the child becomes irritable, loses sleep and weight, and is transformed into a condition of mental and physical exhaustion.

The formation of habits and their correction rests largely with the mother or attendant. Considerable stability is necessary for the correction of a bad habit, or the formation of a good one. It means several prolonged crying attacks on the part of the child and perhaps two or three wakeful nights. To cure the habit of masturbation, if the child is under eighteen months of age, the hands may be ban-

daged, or, what is better, a piece of tape may be fastened around each wrist and tied together at the back of the neck, making all secure with a safety-pin. The pieces of tape should be of sufficient length to allow the child free movement of the hands, but not long enough to allow them to come in contact with the genitals.

Leg-rubbing is more frequently seen in very young girl babies. In such cases the wearing of a thick napkin or of two napkins will usually prevent the practice. In children over two years of age, constant watchfulness and vigorous punishment for each offence, combined with medical treatment, will cure most cases, although with some much difficulty will be experienced.

THE NORMAL THROAT

Every mother should learn the appearance of the healthy throat, and every child should be accustomed to throat examination. It will soon learn that no harm is intended and force will not be required. The family physician should

demonstrate to the mother the color of the normal mucous membrane, and the size and appearance of the tonsils in health. By knowing the normal throat she will be able to recognize inflammation, swelling, and exudation in the form of the cheesy dots seen in tonsillitis, and the membrane in diphtheria. With the first appearance of exudation of any kind, medical aid should be summoned. No chances should be taken with these cases. I know of fathers and mothers who will never cease to regret that they did not appreciate the dangers of temporizing with what they considered a "cankerous sore throat." Diphtheria is most insidious in its onset and a sore throat should never be neglected.

HOW TO EXAMINE THE THROAT

(See Fig. 8.)

In order to examine a baby's throat quickly and thoroughly the child must be held in front of and at the right side of the attendant, supported by the attendant's left arm under the buttocks; the

FIG. 8. THE THROAT EXAMINATION.

right arm, which is thus left free, is passed around the child, binding its arms to its sides. The child's head rests upon the right shoulder of the attendant.

The mother places her left hand on the child's head to steady it and with tongue depressor or teaspoon in her right hand she presses down the tongue, and, with the child under perfect control, she brings into view the parts that are to be examined. The most satisfactory view can be obtained by daylight before a window. If the examination is made in the evening, a lamp or taper held by a third party, a trifle above and behind the mother's right shoulder, will furnish a satisfactory illumination.

THRUSH

Thrush, also known as Sprue, is a disease of the mouth, seen most frequently in delicate and neglected bottle-fed infants. The mucous membrane covering the tongue and the inner side of the cheeks is chiefly involved. In mild cases there will be visible a few patches of a

yellowish-white fungoid growth. In others, the entire mucous membrane will be thickly covered by a growth which somewhat resembles finely curdled milk. Considerable force is necessary to remove it. The parts not affected by the growth will be found reddened and congested. The disease is attended with considerable pain and discomfort. There may be slight fever, but the principal symptom will relate to the taking of food. The child will be eager for the bottle, and when it is given him he draws for a few times, pushes the nipple from his mouth, and cries; sometimes the bottle will be refused altogether, necessitating feeding with a spoon. Whatever form of artificial nourishment is given, it will usually be taken better if given cool.

Thrush can usually be traced to one cause—lack of cleanliness, either of the mouth or the bottle and nipple, or to the use of the "pacifier."

The treatment consists in removing the cause and in gently washing the mouth after each feeding with a saturated solution of boracic acid. This can

best be done by wrapping around the index finger a piece of absorbent cotton which is saturated with the solution and then gently bringing it in contact with the inflamed parts. If a little of the solution is swallowed no harm results.

The washing should be repeated after each feeding.

STOMATITIS, OR SORE MOUTH

There are three varieties of this disorder:—*the catarrhal*, *the aphthous*, and *the ulcerative*.

In the catarrhal form there is redness of the gums with excessive secretion of saliva.

In aphthous stomatitis, distinct grayish-white plaques will be noticed on the inner side of the cheek and undersurface of the tongue, varying in size from a pin-head to a split pea.

Ulcerative stomatitis is the most serious disease of the three. It may occur during serious illness, but in most instances it occurs independently. There is a general congestion of the mucous membrane

with the secretion of a great deal of saliva. Its distinguishing point, however, is the line of ulceration which forms on the border of the gum at its junction with the teeth. The ulceration may be so severe as to cause a loosening and falling out of the teeth. The breath is often very foul, and the gums bleed at the slightest touch.

Lack of cleanliness plays a large part in causing sore mouth. Unclean feeding apparatus, the use of the "pacifier," and the custom of allowing a baby to put into its mouth everything within reach account for a majority of the cases.

The symptoms are fever, loss of appetite, and evidences of much discomfort when the child attempts to eat. In many cases of the ulcerative form there are high fever and greater prostration than one would think possible.

The prevention and treatment are the same — cleanliness. The sore mouth should be washed with a saturated solution of boracic acid after each feeding, using absorbent cotton, which is wrapped around

the index finger. The cotton is saturated with the solution and gently brought into contact with the diseased surface. Force must not be used in these cases, as more damage than benefit will result if the tissues are lacerated. In the ulcerative form internal treatment is required in addition to the local means suggested. Every case of ulcerative stomatitis should be seen, at least once, by a physician.

TAKING COLD

By "taking cold" we understand that through the influence of cold upon some portion of the skin an impression similar in nature to that of shock is produced, which affects the entire body and manifests itself most frequently in the form of a congestion of the mucous membrane of the respiratory tract, between which and the skin there seems to be an intimate connection. Micro-organisms play an unknown though probably important rôle in the process. They are found in large numbers on the diseased mucous surfaces. The changes in the mucous membrane

resulting from the exposure prepare the parts for their growth and development. The taking of cold means previous exposure, and what will constitute a sufficient degree of exposure in one individual may produce no effect in another. According to my observation the most frequent cause of colds in infancy is the action of cold air on a moist skin. The child that perspires readily, or the child that is made to perspire by unsuitable clothing, suffers most in this respect during the cold season. I look upon inadequate head-covering as a most frequent cause of diseases of the respiratory tract in the young. Most infants are dressed for the daily outing in a warm room with the temperature ranging from 75° to 85°. The child is wrapped in ample coats, blankets, and leggings; he is active, throws his legs and arms about; the dressing thus far requires quite a period of time; he perspires freely, but the dressing is not completed. On the head is placed one of the more or less artistically decorated airy creations which are sold in the shops

as children's caps. They furnish little protection for the many square inches of the almost bald little head. The child is taken out of doors; a wind is blowing; the result is a cold, and how it came about is never understood. He was supposed to be dressed ideally for cold weather. The idea is common and to a certain degree proper that a child's head should be kept cool. This theory, however, gives rise to carelessness as to the head-dress. During the colder months I advise mothers to make a skull-cap out of thin flannel, which the child wears under the regular outing cap.

Allowing a child to sit on the floor during the winter months is probably the next most frequent cause of taking cold. Kicking off the bedclothes at night is another frequent cause. Taking the child from a warm room through a cold hall is not without danger. Holding the child for a few moments by an open window during the cold weather is often followed by croup, bronchitis, and pneumonia. The uneven temperature of the living- and

sleeping-rooms in many of our New York apartments is a very frequent cause of cold. Frequently during the day the temperature will be between 75° and 80°, but at night, when the fires are banked, it falls to 55° or 60° or lower. The child went to bed warm and perspiring, kicked off the bedclothes; the temperature in the room fell, the body became chilled, and the child took cold.

Among rachitic children there is a marked predisposition to catarrhal affections; they acquire laryngitis and bronchitis upon very slight provocation.

In many instances colds in infants are attributed to the bath. Among dispensary mothers this is often considered a cause of cold. I have never known a cold to be due to a bath.

Adults and "runabout" children with coughs and colds should not come in contact with infants. There is undoubtedly an element of contagion in such cases. It is a very bad practice to have a *family* pocket-handkerchief. The youngest infant is entitled to a handkerchief inde-

pendent of the other children, and a handkerchief should never do service for more than one individual between washings.

Mothers can do little without medical aid in the treatment of colds but they can do much in preventing them. The temperature of the living-room should range from 70° and 72°, the sleeping-room from 66° to 68°. Of course it will be impossible to keep the temperature at all times at these figures, but the closer it approximates to them the safer the child will be.

Children must not be allowed to sit on the floor during the winter. They can have their playthings on the bed, on the sofa, or in a clothes-basket which may be raised on two thick pieces of wood or a couple of books. There is always a draught near the floor. The "pen" referred to on page 254, is the best scheme that I know of for keeping children from the floor.

The room in which the child is dressed for an outing should not be above 70° F. Securely pinning bed-blankets to the

mattress, or, better, a combination suit with "feet," will do much to prevent the child from taking cold at night.

COUGH

In an infant or young child a cough which is not due to whooping-cough may almost, without exception, be accounted for by some abnormal condition of some portion of the respiratory tract. It may be due to a diseased state of the mucous membrane of the nose, throat, or bronchial tubes, or to disease of the lungs or pleura. The most common cause of cough is an inflammation of the tracheal and bronchial mucous membranes. Adenoids, also, are a common cause of cough. They are a most common cause of the troublesome night cough which disturbs the child as soon as he lies down and which, in many cases, continues a greater part of the night. I have yet to see a cough due to dentition or worms; neither has it been my lot to have the so-called "stomach cough" demonstrated to my satisfaction.

The above types of cough, together with

the so-called "nervous cough,"—another creation of the imagination,—have all been due, according to my observation, to chronically diseased tonsils or adenoids, or both combined. All of these varieties of cough may be cured in a few seconds by the proper operative treatment of the diseased parts. In many cases it is puzzling to differentiate between the severe night cough produced by adenoids and the early stage of whooping-cough.

TONSILLITIS

Tonsillitis, or inflammation of the tonsils, is a very common ailment among children during the colder months. It usually follows exposure. The onset is generally sudden, with high fever,—103° to 105° F.,—pain, swelling, headache, and general muscular soreness. Inspection of the throat will show the tonsils to be swollen and inflamed. The entire throat generally has a congested appearance. No other changes may be noticed. In the majority of cases, however, the tonsils will be found studded with small white

dots of a cheesy material. If the case is seen two or three days after the beginning of the illness the dots may have coalesced, forming large yellowish patches which so closely resemble the appearance of the throat in diphtheria, that it may be impossible for the physician without the aid of a microscope to differentiate between the two diseases. An attack of tonsillitis runs its course in from two to five days. Cold applications, cold compresses to the throat, and cold spongings of the body afford the patient much relief. A dose of castor oil given at the first symptom of the disorder will always be of value.

COLD IN THE HEAD

A cold in the head is a very frequent occurrence in the young, and while not serious if the trouble limits itself to the mucous membrane of the nose, it is, nevertheless, a source of much annoyance to both mother and child. The mucous membrane of the nasal passages is congested and swollen. The nostrils of

infants in health are very narrow, so that a slight congestion will greatly interfere with the breathing.

The first sign to be noticed is that when the child is nursing he is unable to breathe easily through the nose, and frequent rests are necessary. Sleep, for this reason, is also interfered with. The baby sneezes more than usual and there is a watery discharge from the nose with usually a degree or two of fever. With the onset of the first symptoms, one teaspoonful of castor oil will be of service. A few drops of melted vaseline may be dropped into the nostrils every two hours.

The danger from a so-called "cold in the head" rests in the fact that the inflammation does not always limit itself to these parts. It is very liable to extend to other portions of the respiratory tract, terminating sometimes, even if properly treated, in bronchitis or broncho-pneumonia.

BRONCHITIS

Bronchitis may occur as a primary illness, or it may follow a cold in the head,

laryngitis, or any inflammatory condition of the respiratory tract. It often occurs as a complication of other diseases. There is almost always more or less bronchitis with measles. In bronchitis we have a serious illness ; not necessarily serious in itself but mainly so because of the frequency with which it leads to catarrhal pneumonia. Bronchitis in a delicate child requires but a little bad management or neglect and pneumonia will surely develop.

The reason why bronchitis is a dangerous illness in a young child is because of the lack of development of the parts which form the chest walls. The ribs are soft and the muscles weak. The bronchial tubes collapse readily. In an older child the bronchial secretions are coughed into the mouth and swallowed or expectorated. The young infant cannot expectorate. When the secretion is viscid and thick the weak chest-wall fails to furnish the power required to expel it and instead it is drawn deeper into the lungs, the smaller tubes become clogged

with mucus, the air vesicles collapse, bacteria multiply rapidly in the confined secretions, and pneumonia results.

Bronchitis is indicated by coughing and wheezing, and what the mother often calls "a drawing of the chest." In most cases fever is present in a marked degree. The severity of the cough and the other symptoms depend entirely upon the severity of the lesions. In many cases, if seen early the disease will respond to treatment in a day or two. A generous counter-irritation of the chest with one part of turpentine and three parts of camphorated oil is a useful measure, the applications to be made twice a day,—morning and evening. What is better, however, is the use of the mustard plaster, made by mixing one part of mustard with three parts of flour, sufficient warm water being added to make a paste which may be spread on cheesecloth or thin muslin. It should be large enough to encircle the chest, fitting the child like a jersey. This is covered with another piece of similar material and the plaster is complete. It

should be wrapped around the chest and allowed to remain from ten to fifteen minutes—until the skin is thoroughly reddened.

Proprietary cough mixtures and home remedies should never be relied upon for the treatment of bronchitis in children.

CROUP

CATARRHAL CROUP ; DIPHTHERITIC CROUP

There are two varieties of croup, *catarrhal* and *diphtheritic ; catarrhal croup* a catarrhal inflammation of the larynx, and *diphtheritic croup* a membranous inflammation of the larynx.

Catarrhal croup may begin in two ways. The child will suffer from snuffles, indicating a simple cold in the head, which is followed by a slight fever and a mild cough. The cough rapidly becomes worse and is hoarse and barking in character, becoming more severe toward evening. As a rule, the fever is not high. In the evening of the second or third day of the illness, sometimes the first day, signs of obstruction

to the breathing become apparent. The inspiration is labored and accompanied by a croaking sound. The child cannot speak above a whisper.

Probably not over half of the cases show this gradual development. In many the onset is sudden; the child goes to bed as well as usual; after a quiet sleep of a few hours he awakes suddenly, sits up in bed, and with high-pitched cough, straining for breath, he startles the household.

Membranous or diphtheritic croup is much the more dangerous affection, but to the mother there is no means of distinguishing between the two forms, unless the child has diphtheria and the croup follows. The two forms may appear in identically the same way, although the onset of the diphtheritic croup is usually more gradual.

In case of a severe cough or a sharp attack of croup in one of the children, the mother or nurse in charge has three duties to perform: send for the doctor, isolate the child, and give him a teaspoonful

of the syrup of ipecac, which may be repeated in fifteen minutes if there is no vomiting. Every case of croup should be quarantined until the nature of the trouble is determined. If it is catarrhal, no harm will be done by the isolation. If it is diphtheritic, the lives of other members of the household may be saved by the precaution. If a croup-kettle is at hand, it should be brought into use after making a tent by covering or draping the crib with a sheet. A cold compress applied to the throat is often beneficial also. It should be thoroughly wrung out, covered with some dry material, and changed every twenty minutes. The child should receive a laxative as early as possible in the attack.

PNEUMONIA

Pneumonia, sometimes referred to as inflammation of the lungs, or lung fever, occurs very frequently in infants and young children. It may appear as an independent affection or as a complication of other diseases. There are two varieties which are commonly met with in the

young: *lobar pneumonia*, which corresponds closely to the adult type, and *broncho-pneumonia*, or, as it is sometimes called, *catarrhal pneumonia*.

Lobar pneumonia usually results from exposure—a sudden chill of some part of the surface of the body.

Broncho-pneumonia is usually the outcome of what is known as "a common cold."

The latter is most frequently seen in children and is usually the variety which occurs as a complication of other diseases. The mode of onset of the two types varies. With lobar pneumonia the onset is sudden; there may be a chill or a convulsion. Sometimes vomiting ushers in an attack. The fever rises rapidly to 103° or 105° F. The face is flushed and wears an anxious expression; the breathing is rapid, the respirations being from 40 to 60 a minute, the expiration being accompanied by a peculiar, partially suppressed sigh. The child is very restless, often delirious, or there may be stupor, with symptoms pointing to a complicating meningitis.

All the symptoms disappear with the advent of the crisis, when the fever suddenly abates and fails to rise again. The crisis may be expected any time between the third and eleventh day of the recovery cases. In the majority of my cases it has occurred from the fifth to the seventh day, in a few not until the ninth day, and in two it did not occur until the eleventh day.

The prognosis of lobar pneumonia in children is good. A very small percentage fail to recover. A patient of mine, a three-year-old boy, passed through two distinct attacks in a single winter, the second after an interval of ten weeks.

In catarrhal or broncho-pneumonia the story is different. There may be a pneumonia at the commencement of the illness, but according to my observation, which covers several hundred cases, the majority begin with symptoms of a common cold or bronchitis, the lungs becoming involved gradually. In other words, the onset is gradual, not sudden, whether it occurs independently or as a complication of some

other disease. There are cough, often distressing, moderate fever, rapid breathing, and, later, emaciation. Broncho-pneumonia in children is an affection of extreme gravity. There is no well-defined crisis as in lobar pneumonia. The disease may last a week or two weeks, or it may continue for months. In one of my cases,—a child eighteen months of age, the disease continued three months before the low fever abated and the lungs were clear. The recovery cases usually require from three to four weeks before the lungs may be considered normal.

The sick-room of a patient ill with pneumonia should be large, with one window open at least four inches from the top. The temperature of the room should not be below 68° or above 70° F. The child should be put on a reduced diet of animal broths, thin gruels, and diluted milk.

Prevention resolves itself into proper care of the child, proper clothing, avoidance of unnecessary exposure, and an

appreciation of the fact that with a child it is almost as necessary to call a physician for a common cold or bronchitis as it is for scarlet fever or diphtheria.

THE CONTAGIOUS DISEASES

A contagious disease is one due to a specific poison which under favoring conditions possesses the power of reproducing itself in the person of another. The poison of the disease, the *contagium*, may be transmitted either directly by contact with an individual suffering from the disease or indirectly by means of some person or object, such as the clothing or hands of the attendants, which have been in contact with the one infected. According to my observation, personal contact with the infected is required in a large proportion of cases. Measles and whooping-cough are unquestionably the most contagious diseases of this type, requiring for their transmission only a very slight exposure. German measles and chickenpox are next in order of communicability; while scarlet fever is less contagious than

any of those mentioned—a close contact and a fairly long exposure being usually required. Clothing may be infected by the *contagium* of scarlet fever and diphtheria, the poison remaining inactive for a long time.

A little girl, four years of age, who lived in one of the Hudson Valley villages, contracted scarlet fever while on a visit to a neighboring town ; the case was a severe one and the child died. A coat which she had worn when stricken with the disease was considered too valuable to be destroyed and was carefully laid away in a bureau drawer. Twelve months later the mother decided to give the coat to a neighbor's child. It was removed from the bureau, which had remained unopened, and placed on the little one. In five days she was attacked with scarlet fever. These were the only two cases that had occurred in the village. The second child had not been away from home and the jacket was the only possible means of infection.

Diphtheria through personal contact

alone is probably the least contagious of any of the diseases belonging in this group. Its virulence, however, renders every preventive measure imperative.

Smallpox, thanks to compulsory vaccination, is seen so rarely that it need not be considered here.

SCARLET FEVER

Scarlet fever is one of the most important of the contagious diseases, and whether a case is mild or severe it requires the greatest watchfulness on the part of both physician and nurse, nor can their vigilance be safely relaxed until the patient has been apparently well for at least five or six weeks. The period of incubation varies considerably. In the majority of cases the first sign of trouble is noticed from three to five days after exposure. In one of my cases twelve days elapsed between the time of exposure and the initial symptom. If, however, nine days pass without evidence of illness, the child may ordinarily be considered safe, but the exposed should not

come in contact with other children until at least fourteen days have elapsed. Infection usually takes place from direct contact, although the *contagium*, the nature of which is unknown, may be carried by means of clothing, toys, books, or a third person. Doctors who do not wear gowns while attending scarlet fever patients, and are careless about washing their hands after examining such cases, may themselves carry the disease. One attack usually protects against a second, although cases are on record of the occurrence of two or three attacks in the same individual.

The onset of scarlet fever is sudden, often with vomiting, occasionally with a convulsion, always with fever and sore throat. The fever is usually high, 103° to 105° F., though it may be low,—101° to 102°. When the latter is the case the course of the disease will probably be mild. Whether the fever is high or low, the deeply red, congested throat is always present. From twenty-four to thirty-six hours after the initial symptom the rash

makes its appearance. In many mild cases it will be the first symptom noticed. The character of the rash, its intensity, and the height of the fever indicate fairly well the severity of the attack. The chest and abdomen are usually the site of the first appearance of the rash. It is composed of minute red dots so closely set together as to give the skin a deep scarlet color. The extent of the rash varies greatly; in some cases it covers the entire body and lasts from six to seven days. In others, it is much less distinct, covering only limited areas, and may last for only a few hours. In one of my cases it was visible for only six hours after it was first noticed; while in all other respects the case was one of typical scarlet fever. Ordinarily the rash begins to fade about the fourth or fifth day and is followed by the desquamation period. This is also variable in extent; there may be but a slight peeling of the palms of the hands, and of the finger-tips about the nails, or it may be most profuse, the epidermis peeling off in large

flakes from the entire surface of the body. From two to three weeks are required to complete this process.

Complications are a common occurrence in scarlet fever, and it is the complications which are usually the cause of death in the fatal cases. The kidneys, heart, lungs, and ears are particularly liable to serious involvement.

An error frequently made is to allow the child convalescent from scarlet fever to be out of bed too early. He should never be allowed to run about before four, or, better still, five or six weeks have elapsed. The peeling may be hastened, the disease curtailed, and the danger of spreading lessened by a daily sponge bath followed by an inunction with sweet oil or vaseline.

GERMAN MEASLES

German measles is a contagious disease of a very mild type, ordinarily the rash being the first sign of illness. This may have been preceded, however, by a slight chilliness and soreness of the muscles.

The eruption is of a reddish-brown color and appears more extensively on the face and chest than on other parts of the body. The spots vary in size from a pin-head to a flaxseed. In well-developed cases the rash may cover the entire surface of the body. The temperature is usually low and lasts but a day or two. I have never seen it above 102° F. There is little or no inflammation of the eyes, nose, or throat, in marked contradistinction to measles. There is no cough and the child suffers very little inconvenience. The glands behind the ear and at the sides of the neck are always enlarged and sensitive,—this with the fever and the rash comprising the chief symptoms of the disease. The duration of the rash varies from one to three days. Usually at the end of forty-eight hours the skin will be found clear.

My treatment is: two or three days in bed and a light diet.

MUMPS

Mumps is an inflammation of one or

both parotid and sublingual glands. One attack usually protects against another. The disease is usually acquired by contact with the infected. It is extremely doubtful that it can be carried by a third party. The period of time required for the development of the disease after exposure varies considerably; but from two to three weeks may be considered the period of incubation.

The first symptoms are similar to those of the other contagious diseases. There are loss of appetite, headache, languor, and slight fever. In addition to these general symptoms, the child complains of pain upon swallowing, or upon moving the jaw. Vinegar or any acid substance taken into the mouth causes considerable pain or discomfort behind the jaws and under one ear. In a few hours there will be noticed a swelling of the parotid gland in front of and under the ear. Both sides rarely begin to swell at the same time; the swelling of one gland usually precedes that of the other by a couple of days. It increases gradually for two or

three days until it reaches its height, when it begins to subside slowly, reaching the normal in eight or ten days from its beginning. The temperature during the attack ranges from 100° to 103° F.

The complications of mumps in children are few, and the disease cannot be regarded as dangerous. Acute Bright's disease followed an attack of mumps in one of my patients. Swelling of the testicles is a comparatively rare occurrence. Ear disease is an infrequent but possible complication. Multiple abscesses may develop in the parotid gland, but this is also a very rare occurrence. Other acute glandular swellings at the angle of the jaw are often mistaken for mumps; in mumps, however, the swelling is always in front of, under, and behind the ear. A simple glandular enlargement may be located at any point under or behind the jaw.

A child with mumps should be kept in bed until the swelling has subsided, and given plain, easily digested food. The mouth should be rinsed after each meal

with a saturated solution of boracic acid. For the pain and discomfort caused by the swelling, hot applications answer best. Flannel wrung out of very hot water and bound upon the parts always furnishes some relief. The flannel should be kept hot by repeatedly dipping it into hot water. The heat will be retained better if the flannel is covered with oiled-silk.

WHOOPING-COUGH

In whooping-cough we have one of the most dangerous diseases of childhood, dangerous in the extreme for the very young, the delicate, and the rachitic. In itself it is seldom directly fatal, but the frequent complications of catarrhal pneumonia in winter and intestinal diseases in summer make it indirectly responsible for the loss of many lives.

The period of incubation ranges from seven to fourteen days. At the commencement of the disease the cough is not severe and often cannot be distinguished from that of bronchitis or a common cold. The cough, however, does not re-

spond to treatment for coughs and colds ; it increases in severity, becoming paroxysmal in character and worse at night. During the paroxysms the eyes water, the face becomes red and congested, the seizure often ending in vomiting. The characteristic whoop usually develops after ten days or two weeks. In the mild cases there may be but two or three paroxysms daily ; in the severe cases there are usually from twenty to thirty in twenty-four hours. I have seen a few cases in which the disease was so mild that the whoop never appeared, while others whooped but once during an entire attack. The disease varies not only in its severity, but in its duration as well. Occasionally cases are seen which run the entire course in four weeks ; unfortunately, they are rare. As a rule, from eight to ten weeks elapse before the child may be considered well.

As long as the child continues to whoop, or the cough is distinctly paroxysmal, it is not safe for him to come in contact with the unprotected. The active stage, during which the paroxysms are frequent

and severe, rarely lasts longer than two or three weeks. Sometimes after a period of three or four months without whooping, the child takes cold, develops a cough paroxysmal in character, and the whoop returns ; but this does not mean that there is a return of the whooping-cough, and such children need not be quarantined.

Whooping-cough cannot be cured ; it must run its course. The author's observations, which cover the management of 768 cases, prove that every case may be ameliorated and its course perhaps shortened. The home treatment demands an abundance of fresh air. The child should spend the greater part of every pleasant day out of doors and sleep with the window open an inch or two from the top, regardless of the weather.

DIPHTHERIA

Diphtheria is a disease due to a germ which is known as the Klebs-Loeffler bacillus. It lodges upon the mucous membrane of the throat or nose, and there starts up a process known as diphtheria.

The disease is usually of slow and insidious onset, requiring two or three days for its complete development. The period of incubation varies greatly ; a child may develop diphtheria within twenty-four hours after exposure, or it may be delayed a month or six weeks. In children who have been exposed, there should be a microscopical examination of the secretion from the throat, which may settle the question as to the child's liability to contract the disease.

The first symptoms are fever and restlessness, loss of appetite, and disinclination to play. The child may complain of pain upon swallowing, and in many cases, very early in the attack, swelling may be noticed at the angle of the jaw. Inspection of the throat shows the characteristic patches of the membrane. In some cases these patches resemble a thin layer of putty spread over the parts. Others present the appearance of a very light-yellow paint splashed upon the tonsils and adjacent parts. The membrane may be located in the nose, throat,

larynx, eye,—in fact, any mucous surface may become infected ; fresh wounds may also become infected. The usual sites, however, are the nose, throat, and larynx. The disease may be transmitted by direct contact, by means of contaminated clothing, toys, pictures, books, or the germs may be carried on the hands or clothing of an attendant.

One attack does not protect against another. There is evidence that a certain degree of immunity is established, but it probably is not effective for more than a few months. Diphtheria does not run a definite course, like the other infectious diseases. We cannot say that certain definite signs will be present on certain days. It is the most uncertain and treacherous disease with which we have to deal.

The only treatment of value other than supportive measures is the use of antitoxin, which must be given *early* in the disease—as soon as a diagnosis of diphtheria is made. In fact, I believe it is advisable to give it in all cases where there

is any uncertainty as to whether the case is tonsillitis or diphtheria. Much valuable time may be lost by delay. The antitoxin should be repeated in from twelve to twenty-four hours if improvement does not follow. I have been obliged in two cases to give three injections of 2000 units each. In the majority of my cases two injections of 2000 units each were required.[1] No harm results from the use of antitoxin. I have employed it in thirty-three cases and have lost but two. One child I did not see until the fourth day of its illness, which was too late for the antitoxin to be of any service. Dr. W. B. Hoag, of New York, has employed antitoxin in over thirty consecutive cases without a death. Other physicians can doubtless show equally brilliant results. The general mortality of diphtheria has been markedly reduced through its use. During convalescence, the child must not be allowed to mingle with other children until a bacterio-

[1] In the very severe cases in which there is early involvement of the nose or larynx, from 3000 to 5000 units should be given at the first injection.

logical examination of the throat shows it to be free from diphtheritic germs.

The instructions for the preparation of the sick-room, for disinfection and quarantine, will be found on pages 162–164.

CHICKEN-POX

Chicken-pox is one of the milder contagious diseases. Among several hundred cases I have seen but two that were severe enough to endanger life.

The period of incubation is quite long, —from fourteen to twenty-one days. There is slight fever at the onset, rarely high enough, however, to be noticed by the mother or nurse. More frequently the first sign of the disease is the characteristic eruption which may appear on any portion of the body, the scalp sometimes being particularly involved. The rash consists of very small blisters which from a distance give to the skin the appearance of having been sprinkled with water. The fluid soon disappears, leaving a dark-colored crust. When the crusts fall, a small scar is often left, which

may remain for several months. In an ordinary case the skin will not be clear before the end of the third or fourth week.

The child should be kept indoors during the attack, and given a reduced diet. The itching is often relieved by sponging with a weak solution of alcohol in water,—four ounces to a pint, followed by a gentle application of vaseline.

I never advise quarantine against chicken-pox except to avoid the needless exposure of very young or delicate children in the family. The patient should not return to school or be allowed to mingle with other children — in short, is not to be considered well until the skin is clear.

MEASLES

The incubation period of measles—the time required between the exposure and the development of the first symptom—varies between nine and twelve days. One attack usually protects against a second. This, however, is not invariably the case. I have a patient, a young girl, eighteen years

old, who contracts measles every time she is exposed. She recently passed through her fourth attack, which was most severe.

The onset of the disease closely resembles that of a common cold. The symptoms are slight fever, 100°–102° F., redness of the eyes and intolerance of light, a watery discharge from the nose, a dry, hard cough, pain on swallowing, and loss of appetite. The peculiar swollen, congested condition of the eyes and face often makes a diagnosis possible before the appearance of the rash. This usually first appears from the second to the fourth day of the illness, upon the face and chest. At first there are small, irregularly shaped spots said to resemble fleabites. The spots coalesce, the rash extends, and in one or two days the greater portion of the skin is involved. The rash remains at its height for two or three days, when it begins to fade, and in two or three days more the skin becomes clear. With the subsidence of the rash, desquamation or peeling of the skin begins. This consists in the shedding of fine, thin scales.

The fever and prostration keep pace fairly well with the rash. The fever, which may range between 102° and 105°, reaches its highest point with the complete development of the rash. With the fading of the rash the fever also moderates. The cough in measles is hard and dry in character and is often quite severe. It must be remembered that the congestion of the respiratory mucous membrane which causes the cough is a part of the disease. The cough may be relieved, but it will not subside until the disease has run its course. There is always considerable involvement of the eyes, the lids being red and swollen, with a free secretion of watery mucus. In many families but little attention is paid to measles—it is regarded with more or less indifference. While, in most instances, the disease may not be particularly dangerous, we must remember that it is sometimes quite virulent, and domestic treatment should never be relied upon. There is always more or less bronchitis, which in young and delicate infants constitutes a severe complication,

leading, as it often does, to catarrhal pneumonia.

The eyes should be washed daily with a saturated solution of boracic acid. Their sensitive condition requires also a darkened room, and failure to appreciate this fact has often resulted in their permanent injury. A darkened room, however, does not mean a room devoid of ventilation; fresh air for a patient with a contagious disease is almost as important as nourishment. The diet must be simple; only fluid diet should be given to "runabouts," while for infants the usual milk mixture should be diluted with boiled water from one-third to one-half. The child should have a lukewarm sponge bath every day, followed by an inunction of vaseline, which not only relieves the itching, but renders the patient much more comfortable.

Children convalescent from measles should not be allowed to go to school or mingle with the unprotected until two weeks after the completion of desquamation.

SICK-ROOM FOR CONTAGIOUS DISEASES

QUARANTINE

A child ill with a contagious disease should always be isolated, whether there are unprotected children in the family or not. Quarantine can be carried out only when the child is placed in a room alone with the nurse or mother, and neither allowed to leave the room or in any way to come in contact with other members of the family. If possible the room should be on the top floor of the house. The furniture should be of the simplest,—no fancy curtains and no upholstery. A perfectly bare floor is best. If two nurses are required, two isolating rooms will be necessary, one to be used as a sleeping-room. The meals should be carried on a tray and placed upon a chair outside the closed door of the isolating room. The dishes containing the food are to be removed by the person isolated. After use, before returning the dishes to the chair outside the door, they should be placed for five minutes in boiling water. Only wash goods should be worn by the

attendants, and their clothing, with bed linen when changed, should be placed in boiling water—one ounce of carbolic acid to two gallons of water—before it is sent to the laundry.

When other members of the family are allowed to go at will into and out of the isolating room, the value of the quarantine is practically lost. If the illness is of a serious nature, such as scarlet fever or diphtheria, the other children of the family should be sent to other quarters; particularly should this be done if the family occupy an apartment.

DISINFECTANT DRUGS.

The erroneous views possessed by many concerning disinfection often result in much harm. Too many are satisfied by the use of disinfectant solutions and drugs at the expense of cleanliness. Any agent that will destroy germs is a disinfectant. Disinfection really means cleanliness. Disinfectants can never supplant hot water, common yellow soap, and a nail-brush. Dipping the hands into a solution of car-

bolic acid or bichloride of mercury will not make them clean, much less sterile. Sprinkling either of these substances upon the floor will not clean the floor or be of one particle of service. Scrubbing the floor of the sick-room once a day, using hot water, sapolio, and a stiff brush, will do more to prevent the circulation of the germ-laden dust than any disinfectant which can be used. I recently saw a young mother change the baby's napkin, immediately after which, with hands untouched by soap or water, she very carefully washed out the baby's mouth with the boracic acid solution! The young mother was anxious to do her full duty by the child, but had never learned the rudiments of disinfection.

Disinfectant solutions and drugs are of much service when used after a thorough scrubbing with hot water, soap, and brush, —never before.

DISINFECTION AFTER CONTAGIOUS DISEASES—FUMIGATION.

Before being allowed to resume his place in the family, the child who has

recovered from a contagious disease should be given a tub bath, with a vigorous scrubbing with soap and warm water. The hair should be washed with a 1 to 2000 solution of bichloride of mercury, and the child dressed in fresh clothing outside the sick-room.

The soiled clothing and the bedding which can be washed should be put into a solution of one ounce of carbolic acid to two gallons of water. The vessel should be covered and removed to the laundry and the clothing boiled thirty minutes. The bedding and such articles as cannot be washed should be spread over the furniture in readiness for fumigation.

The windows and doors must be closed and sealed, when the room can be fumigated with sulphur or formalin. If sulphur is used, three pounds of roll sulphur are required by the New York Health Department for every thousand cubic feet of air space. The sulphur is placed in an iron vessel which, as a precaution against fire, should stand on a large sheet

of tin or zinc. Alcohol is poured over the sulphur and ignited, after which the room should not be opened for twenty-four hours. If the air in the room can be charged with a moderate amount of vapor from an open vessel on a stove or radiator, the sulphur disinfection will be more complete. Formalin acts as a much better disinfectant and is far less objectionable than sulphur. The formalin apparatus with directions for its use can be rented at a moderate price from most New York druggists.

After the fumigation, the carpet or rugs, mattresses, and pillows are taken charge of by the health authorities in the larger cities, steamed, and returned in two or three days free of expense to the owner. Otherwise such articles should be sent to the cleaner and the mattresses and pillows re-covered. The floor of the room and the woodwork should be scrubbed with hot water, brush, and soap. When dry they should be washed with a 1 to 2000 solution of bichloride of mercury. The furniture should also be washed with

the bichloride solution. If the walls are papered, they should be wiped with cloths moistened with this solution; but it is better to have the room re-papered. If the walls are painted, they should be washed with the solution. If the walls can be newly papered, painted, or kalsomined, much greater security will be enjoyed by the future occupant.

GLANDS

ACUTE ENLARGEMENT OF THE GLANDS OF THE NECK

A mother is often alarmed by the sudden appearance of a hard swelling in the neck of one of the children. The swelling may appear during the night and increase greatly in size for a day or two, when it may be as large as a horse-chestnut. Such a condition is due to swollen lymphatic glands, which are usually situated just behind the jaw and below the ear. Occasionally the swellings may appear in the soft parts under the jaw. The glands, in the performance of their functions, have become infected and

the swelling follows. The cause of the infection will usually be found in a lesion of the mouth or throat. It may sometimes be traced to a lesion of the skin in the neighborhood of the swelling. Thus, the source of infection may be a decayed tooth, a simple abrasion of the mucous membrane, or an acute inflammation of the parts, such as tonsillitis or pharyngitis. In scarlet fever and in diphtheria the glands are often seriously involved. The glandular enlargements, however, which appear suddenly, independent of serious illness, need cause no great anxiety. They terminate usually in one of two ways: they gradually disappear under treatment or they break down and form an abscess which requires incision and drainage. In either event complete recovery follows.

If the swellings occur in diphtheria or in any other infectious disease, they may constitute a grave complication. With their first appearance, apply cold compresses to the parts constantly until the physician arrives.

CHRONIC ENLARGEMENT OF THE GLANDS OF THE NECK

The lymphatic glands of the neck may be chronically enlarged as a result of tuberculosis, syphilis, or local infections from the skin, and a lowered general vitality.

The mother usually notices a slight swelling of the parts, which, upon touch, gives the impression of a hard round body immediately beneath the skin; usually several of these nodules will be discovered. They often extend in chains down the side of the neck; sometimes both sides will be involved. Bunches of glands may also appear under the ear and at the angle of the jaw. They vary in size from a buckshot to a butternut.

Children with a tendency to enlargement of these glands should be constantly under medical supervision.

THE SKIN IN HEALTH

The skin of an infant is extremely delicate and great care is required to keep it in a healthy condition. The secret of a healthy skin in an infant is in proper

attention. It must be kept clean and dry. After the daily bath, in which no ingredient other than plain boiled water and Castile soap should enter, the baby must be carefully dried and the folds of the skin and flexures of the joints thoroughly powdered with equal parts of oxide of zinc and powdered starch. When the napkins are soiled they should be changed at once and the parts again washed and powdered. An occasional sponging, followed by a generous use of powder during very hot weather, will often prevent annoying skin affections, such as prickly heat and eczema.

ECZEMA

Eczema, a catarrhal inflammation of the skin, is a disease to which young children are very susceptible. It appears in different forms, which means that there are several varieties of the disease. Any portion of the skin surface may be involved. The parts most frequently affected are the scalp, cheeks, forehead, and the flexures of the joints, where the skin sur-

faces come in contact. The causes of eczema may be from within or without. The external causes are all of the nature of irritants. A baby's skin is very delicate, and trifling causes will often produce a great deal of inflammation. Strong soaps, liniments, a sudden exposure of the moist skin to cold air, excessive perspiration, insufficient bathing, discharge from the ear or nose, all may cause a local irritation and produce the disease. Allowing a child to rest in a soiled napkin is a most frequent cause of eczema of the buttocks, a condition which is elsewhere referred to. The treatment of this type of the disease resolves itself into removing the cause and protecting the parts by means of a suitable ointment or powder.

Among the internal causes, indigestion is by far the most frequent. It is not the delicate child who suffers most from eczema. In many instances the robust nursling and the vigorous bottle-fed baby are the sufferers. The child in other respects appears well, has a good appetite,

is bright and happy, and shows normal development. The bright red and sometimes weeping area on each cheek, and the itching, scaly forehead, show clearly that something is wrong, and the error will usually be found in the gastro-intestinal tract. The food in some respect is unsuitable, not being properly adapted to the child's digestive capacity. In the breast-fed, regulation of the life of the mother as regards her diet, exercise, and bowel functions will often effect a cure.

In the bottle-fed, an adjustment of the food to the child's age and digestive capacity aids materially in the treatment. Constipation, if present, must be relieved. Local treatment with ointments, washes, and powders are all of little value if the cause of the disorder is not removed. The case may improve temporarily under the local treatment, but within a few days the inflammation reappears in full force.

HIVES

The type of hives most frequently seen in children appears in the form of large

wheals from one-half to one inch in diameter. There may be but two or three of these wheals, or a large portion of the body may be covered by them. They consist of a firm, flat, circumscribed, reddened eruption of the skin, without any definite arrangement. In addition to the skin, the mucous membrane of the tongue, mouth, and pharynx may be involved. In some instances the eruption appears very suddenly, lasts but a few hours, and quickly disappears. If the attack is of a severe nature new spots appear from time to time which behave in the same way. Hives in children are almost without exception due to digestive disorders. I have repeatedly known attacks to follow some unsuitable article of diet, such as cakes, strawberries, pastry, or nuts. Constipation may cause an attack.

The only symptom of consequence is the distressing itching which is always present. Treatment consists in the use of laxatives and a temporary restricted diet. The itching is best relieved by bathing the parts with a solution of

carbolic acid—one teaspoonful to a pint of water.

MILK-CRUST

What is commonly known as *milk-crust* consists of the formation on the scalp of a thick layer of yellow sebaceous material. In addition to being unsightly it is very annoying to the patient on account of the itching which it causes. The mother usually assures us that the condition is not due to neglect. The head is washed and oiled very often; but washing will neither cure nor prevent the disease.

Milk-crust is due to an inflammation of the sebaceous glands of the skin. The affection is easily relieved. The hair must be cut very short, and an ointment, composed of resorcin, thirty grains, and vaseline, two ounces, should be spread generously over the diseased area and covered with a piece of linen which has been saturated with the ointment. Over this a fairly tight-fitting, home-made muslin cap should be worn to hold the dressing in place. The ointment should be

applied twice daily. After three or four days of the treatment, during which time no water must touch the scalp, it may be gently cleansed with Castile soap and warm water, or with warm sweet oil.

The whole or the greater portion of the crusts may be removed with the first washing. Some severe cases may require two or three repetitions of the treatment. After the scalp is clean, an application of the ointment at bedtime once or twice a week will prevent a return of the trouble.

INTERTRIGO

Inflammation of the skin of the thighs and buttocks, by some mothers erroneously called sprue, is often seen in quite young children. In the majority of cases this condition is due solely to neglect of the toilet. The child is allowed to lie in soiled napkins, the irritant discharges thus remaining in contact with the delicate skin, and inflammation and excoriation of the parts naturally follow. Children have delicate skins and often pass very acid

urine. When this combination is present an inflammatory condition of the parts is frequently difficult to avoid. The management is simple, usually requiring only a changing of the napkin as soon as soiled and the generous use of zinc ointment. I have had very little success with dusting powders in such cases, especially in those of any degree of severity. After a passage either from the bladder or bowels, the napkin should be immediately removed, the parts gently washed with Castile soap and boiled water, or, in bad cases, warm sterilized sweet oil may be used to better advantage. After the parts are clean, apply to the inflamed area pieces of clean old linen which have been covered with zinc ointment. If the ointment is applied directly to the skin the napkin soon absorbs it, and its application will be of no service. The ointment acts as a barrier between the irritating passages and the inflamed skin. Under this treatment I have repeatedly seen the worst cases of intertrigo recover in a week.

Of course the applications must be repeated after each cleansing and drying. The ointment must be used extravagantly.

PRICKLY HEAT

There are very few infants who at some time during the hot months do not suffer from prickly heat. This eruption, which is caused by excessive perspiration, consists of very small, pale-red papules, which appear most prominently over the shoulders, chest, and abdomen, although the entire surface of the body may be covered. The great majority of children are over-clad in summer—the clothing is too thick and there is too much of it. At the out-patient department of the Babies' Hospital I see hundreds of cases of prickly heat every summer, due largely to excessive clothing. It may seem strange, but, as a rule, the poorer the mother, the more clothing she puts on the baby.

Considerable relief may be given these children by the use of a bicarbonate of soda bath,—a heaping teaspoonful to a

gallon of water. After the bath, a powder composed of powdered boracic acid, twenty grains, powdered starch and oxide of zinc, each one-half ounce, should be thoroughly dusted over the affected surface. The powder may be used several times a day independent of the bath. The clothing should be very light and loose; thin cottons should be worn instead of woollen goods.

FISSURES OF THE ANUS

In children suffering from what are called *fissures of the anus*, there will be found one or more slight tears in the mucous membrane just inside the anal aperture. In such cases there is always a history of an intestinal disorder, usually constipation, sometimes diarrhœa, the fissures having been caused either by a stretching of the parts by a hard, constipated movement, or by the frequent irritant passages which have caused a destruction of the mucous membrane of the parts.

An infant thus affected cries lustily

when having a passage, and strains and presses for some time afterward. Very often the passage will be streaked with blood. Older children postpone going to stool as long as possible and complain greatly of pain when the bowels move.

These cases will be greatly relieved by the correction of the intestinal derangement. If the child is constipated, the movements should be kept soft by the use of suitable diet and laxatives. If there is diarrhœa, suitable diet and medical treatment are necessary. The local treatment, which may be necessary, should be carried out by a physician.

BOILS

Infants are particularly subject to boils, which are supposed by many to indicate some radical blood disorder. As a result, the victims are drugged and purged with all sorts of teas and "blood-purifiers." The cause of the boil is very rarely from within. It is usually the result of a local infection or inoculation into the skin, the germs finding entrance

by means of a hair follicle or an abrasion so small as to be invisible to the naked eye. A boil having formed, the pus is carried to other portions of the skin by the lymphatics, or it escapes upon the surface, and, in either case, other portions of the skin are inoculated, and a series of boils results. The parts most often involved are the head, the neck, and the shoulders, although they may appear upon any portion of the body, with the exception of the palms of the hands and the soles of the feet. I have opened one hundred and four on one child during a period of three weeks. While boils are more frequently met with among the debilitated and weakly, they are by no means uncommon in the strong and otherwise well. Poulticing, and allowing a boil to open spontaneously, is calculated to prolong the trouble indefinitely. A boil should be opened early, the pus evacuated, and the surrounding skin thoroughly washed with soap and water, when an antiseptic dressing composed of several thicknesses of

old linen, which has been boiled and dried and then dipped into a saturated solution of boracic acid, answers every purpose. Not only the boil but the adjacent skin for several inches must be covered by the dressing, which is to be kept wet with the boracic acid solution.

BURNS

The temporary treatment of a burn of any degree aims at the exclusion of the air by the application to the injured parts of some non-irritating, oily substance, such as vaseline, zinc ointment, or sterilized sweet-oil. A piece of clean linen is saturated with the ointment and placed upon the parts affected, and the dressing changed every two hours until the arrival of the physician.

HEAD LICE, OR PEDICULI CAPITIS

Head lice, or *pediculi capitis*, are very frequently seen in out-patient and hospital work in all the larger cities. Occasionally other children become infected in school or in public conveyances. The

most successful and cleanly treatment consists in cutting the hair short; this done, wash the head with soap and water once a day, and after drying moisten the scalp thoroughly with the following solution:

Acetic Acid.....	2 drachms.
Sulphuric Ether.....	3 ounces.
Tincture of Larkspur.....	4 ounces.
Alcohol.....	4 ounces.

Improvement will follow a few treatments. The pediculi will be killed and the nits may be removed with a fine-tooth comb. If the patient is a girl it is not absolutely necessary to sacrifice the hair. It may be parted from various portions of the scalp and the solution applied without previous washing. However, if the hair is not cut, a much longer time will be required to effect a cure.

BITES OF INSECTS

Bites of insects are rarely dangerous, although they sometimes cause great temporary disfigurement. It is quite difficult often to distinguish between insect bites

and the eruption of hives. Mosquitoes poison some infants severely.

Insect bites are best treated by the use of a solution of carbolic acid,—one-half teaspoonful to a pint of water. This is applied by means of old linen which is kept saturated with the solution.

BITES OF ANIMALS

Bites of animals rarely amount to more than an incised wound from any other cause, and the treatment required is practically the same. When a child is bitten by a dog or a cat the parents are greatly alarmed lest the child develop hydrophobia. If, however, they will believe that this disease exists chiefly in the minds of the individuals interested in its treatment, if they will believe that dogs bite thousands of people every year and no harm comes from it, if they will believe that mad dogs are about the scarcest thing on earth, they will waste much less good nerve force upon what is usually a trifling matter. In case of a bite of any animal, dissolve one teaspoonful of carbolic acid in

one pint of water, and keep the parts moist with the solution, using only clean linen for its application to the wound. The physician, who should be called at once, will advise further treatment if needed.

FEVER

By fever we understand an elevation of the temperature of the body above the normal, which in an infant is 99° F + by rectum. Fever, however, does not constitute disease. It is nothing more or less than a symptom, but it always means that something is wrong with the baby. It may be due to a slight attack of indigestion, the eruption of teeth, or to the beginning of scarlet fever, diphtheria, or some other disease. Children develop fever much more readily than adults, and it is of less significance in them. A child with fever that is appreciable to the touch of the mother will usually register a temperature of 100.5°–101.5°. While such a temperature is by no means alarming, its cause should be discovered. In the absence of a clinical thermometer, in order to examine

a baby for fever, place upon the abdomen the palm of a hand which has been previously warmed. Examination of a child's hands, head, and feet furnishes us very inexact means of judging as to the question of fever. Many times these parts will be cold when the thermometer registers a temperature of 104° or 105°. Every young mother should possess, and know how to use, a clinical thermometer. In case of sudden high fever,—104° to 105°, from any cause, the mother cannot make a mistake in giving an alcohol and water sponge bath at a temperature of 85° F. One part of alcohol may be added to fifteen of water and the child sponged for twenty minutes. If necessary the sponging may be repeated every two or three hours ; this will keep the child comfortable until the arrival of the physician and perhaps prevent unpleasant complications. In case of fever the nourishment should always be reduced at once ; if the child is on the bottle, reduce the strength of the food one-half by the addition of boiled water. If the child is nursed, reduce the

duration of each nursing period one-third. Children with fever can always have plenty of cold boiled water to drink. Mothers must remember that it is not the fever *per se*, but the condition of the patient, which governs us in our treatment. In scarlet fever and pneumonia a temperature of 102° to 104° is expected, and need cause no alarm.

MALARIA

Children in New York City and vicinity frequently suffer from malarial fever. Many cases come under my observation every year, both in out-patient and private practice. The disease manifests itself in three different sets of symptoms. The mild form is most frequently seen, and will be first considered.

The first signs of the illness are drowsiness, languor, disinclination to play, and loss of appetite. In addition, such a child is apt to be peevish and fretful; he falls asleep at unusual times during the day. The sleep at night is often disturbed, and he generally sleeps later in the morn-

ing. There is a little fever,—so slight that it is not appreciable to the touch. These symptoms are followed by pallor and loss of weight. Such a condition may exist for several weeks without the development of more active symptoms of the disease.

In the more typical cases, the fever, languor, and drowsiness will appear at a definite time each day, — usually from three to five o'clock in the afternoon. The child wakes the following morning apparently well, but at about the same hour in the afternoon the symptoms are repeated. There is always a distinct periodicity in the symptoms. In some cases the child will be ill every second day, but at the same hour. In other cases the symptoms are still more characteristic and are easily recognized. At a certain time every day, or perhaps every second or third day, there will be a chill and a rapid rise in temperature, followed by a profuse perspiration, during which the fever subsides.

I recently treated a little girl five years of age who had a chill every second day

at eleven o'clock in the morning. The fever rose rapidly, until at one o'clock it was 106°; at 3.30 the temperature was normal, and the child felt perfectly well. this continued for one week.

The diagnosis in the first class of cases is by no means easy. In many instances the nature of the illness is not discovered and the child is treated for various imaginary ills.

The usual treatment of malaria in children is by the use of quinine, or by a change of climate. The majority of the cases recover satisfactorily under quinine, but it should never be given without a physician's order. The indiscriminate giving of quinine whenever a child falls ill cannot be too strongly condemned.

TUBERCULOSIS

Tuberculosis is an infectious disease which carries off one-seventh of the population of the earth. Children are very susceptible to the infection. The disease is caused by the entrance into the system of a micro-organism known as the *tuber-*

cle bacillus. Tuberculosis is not inherited. The disease always comes from without, as does typhoid fever or diphtheria. We often see parents and children in turn sicken and die with the disease. This does not necessarily mean heredity, however. It means that there is a family condition of constitution which furnishes a favorable soil for the development of the bacillus. If all who swallowed or inhaled the tubercle bacillus became tubercular, the earth would be depopulated in a very few years. We all have taken the tubercle bacillus into our bodies at some time, probably many times. In one individual the germ finds a favorable soil and flourishes; in another, unfavorable conditions,—health and vigor of constitution, —and it dies. The usual means of infection is through the inspired air by the inhalation of the infected dust from the public conveyances, from the street, or from infected dwellings. Infection may also take place by direct contact through kissing. The bacillus may be swallowed with food or drink which has been contaminated.

Almost every portion of the body may become the seat of the tubercular process. When the micro-organism attacks the lungs, it produces what is known as consumption, or pulmonary tuberculosis. When the covering of the brain is involved, the child has tubercular meningitis. When the hip-joint is attacked, hip-disease follows. When the spine is attacked, it produces what is known as Pott's disease. When the glands of the neck are infected, scrofulous glands or tubercular adenitis is the outcome. Tubercular disease of the knee is commonly known as white swelling. These are the parts which are most frequently the seat of the tuberular process. With less frequency the bacillus attacks the bladder, the kidneys, the skin, the intestines, the mesenteric glands, and the peritoneum.

In institutions and among the poor, what is known as *general tuberculosis* causes the death of many infants. At autopsy they show an involvement of nearly all the internal organs. Tuberculosis in children is always a very serious

disease, but it is not necessarily fatal; many cases recover. When the disease involves the spine, hip-joint, or knee-joint, or the glands of the neck, the prognosis as regards life is usually good. When the brain is attacked it is always fatal. In tubercular disease of the lungs in very young children the prognosis is very grave. Many older children—those from seven to eight years of age, recover if the disease has not progressed too far before coming under treatment. The important features in the management of these cases are: change to a dry climate at an elevation of one thousand to fifteen hundred feet, with a most carefully regulated diet and close attention to hygiene.

RICKETS

Rickets is a constitutional disease due to malnutrition. A child with rickets either has not received suitable nourishment, or, if he has received it, it has not been assimilated. Lack of nourishment manifests itself in characteristic changes in the bones, muscles, and in the nervous

system. In addition to their physical characteristics, children with this disease show delayed mental development. A rachitic child is usually under weight and undersized, particularly as regards length. The head is ill-shaped, the enlargement of certain bones of the skull giving the head a square appearance. The sutures and fontanelle close very late. I have seen the fontanelle still open at the fourth year. The teeth are cut late, are apt to be soft, and decay early. Many rachitic children do not get the first teeth until after the twelfth month is passed. The chest is narrow and depressed at the sides, and along its anterior portion, at the junction of the costal cartilages with the ribs, a row of nodules can be traced. The ends of the long bones, particularly at the wrists and ankles, are very much enlarged. In many cases this enlargement is so great that it produces quite a deformity Often the legs are curved, a condition known as "bow-legs." The spine is weak and in severe cases the child is unable to sit erect. The abdomen is usually very

prominent. The malnutrition is further shown by the flabby, poorly developed muscles, by the tendency to perspiration, particularly about the head, and by the unstable nervous system. These children are restless, irritable, and hard to please, and they have convulsions under slight provocation. Not all rachitic children are below weight ; some are quite fat, but pale and flabby. The changes in the bones, however, are similar in both types. In addition to the characteristics noted, rachitic children possess feeble powers of resistance. They are prone to catarrhal affections of the respiratory and intestinal tracts. In many instances, they teeth late and with much difficulty. On account of their enfeebled condition, illness in a rachitic child is apt to be tedious, if not serious.

The prevention of rickets depends upon proper feeding. Condensed milk and the proprietary meal foods are responsible for a large majority of the cases. Proper management requires suitable food, cleanliness, fresh air, and cod-liver oil. By

"suitable food" is meant good milk for children under one year, to which meat and eggs are added as soon as they can be digested—usually after the twelfth month. For very rachitic children I order also one brine bath daily.

SCURVY

Scurvy is a disease of quite frequent occurrence among bottle-fed children It is characterized by pain in one or more of the joints of the long bones, with or without swelling of the involved parts, and discolored, spongy, or bleeding gums. Hemorrhages into the skin sometimes occur, which give the child a peculiar mottled appearance. The disease is often mistaken for rheumatism because of the swollen and painful joints. If the case is a very severe one it may resemble paralysis in some of its aspects.

The disease is due to errors in nutrition. The great majority of the cases develop in those who are being fed on proprietary meal foods, condensed milk, and overcooked cows' milk.

Among the author's thirty cases, one symptom was always present: they all showed evidences of faulty nutrition; they also presented another symptom in common which was the earliest active manifestation of the disease, and that was pain. The child that has been playful, active, and has enjoyed attention, suddenly undergoes a change—he prefers to rest in the crib or carriage, cries when handled, and refuses to play. Often the first signs of trouble will be noticed when changing the napkin or putting on the shoes or stockings. The movement of the diseased parts causes pain and the child cries lustily. If he is undressed and rests on his back, the affected limb in all probability will remain motionless, while its companion may be moved freely.

The symptom of pain appears before the swelling of the joints, which is sure to follow in case the disease is not recognized early and treated properly. Another characteristic symptom is the swollen, congested, and bleeding gums about the upper incisor teeth. This condition is

sometimes seen early in the attack, but it is usually a later symptom. Hemorrhages into the skin are of comparatively infrequent occurrence.

Scurvy uncomplicated is not accompanied by fever. Acute articular rheumatism is always accompanied by fever. Rheumatism is rare in children under two years of age ; scurvy is rare in children over two years of age. There is no excuse for an error in diagnosis between the two affections.

The treatment is : fresh cows' milk, beef juice, and orange juice. For a child one year of age the juice of one orange should be given daily. Under proper treatment the average case will be well in a week or ten days, improvement being noticed in from twenty-four to forty-eight hours after beginning the treatment.

RHEUMATISM

Rheumatism is a disease of very grave import and of rather frequent occurrence among children after the third year. It may appear in all degrees of severity.

The mild attacks are often so slight that a physician is not consulted and the diagnosis of rheumatism never made. Such cases are often mistaken for sprains and so-called "growing pains." Aside from this mild type we have the disease in all degrees of severity. The severe articular form known as inflammatory rheumatism, is that in which the child, with high fever, throbbing blood-vessels, reddened, swollen joints, dreads your approach to the bedside and begs you not to touch him. There can be no attack of rheumatism so mild that it should be ignored. Every child ill with this disease is in danger of heart complications which may make him an invalid for life. Probably four-fifths of the cases of valvular heart disease in adults are due to attacks of rheumatism during childhood, and in many instances the disease of the heart is not recognized until long after the rheumatic attack. In every case of rheumatism the heart should be examined early so that the case may be promptly and properly treated. Heart involvement is as liable to develop in the

mild as in the severe attacks. In some cases it is the only evidence of the presence of rheumatism.

GRIPPE

Grippe is a disease very prevalent among children during the colder months. It is due to a micro-organism which is usually taken into the system with the inspired air. There are four types of the disease to be seen in children.

In the most common type the respiratory passages are the parts chiefly involved. The symptoms resemble in some respects those of a common cold. There is running at the nose, cough, sore throat, and, generally, bronchitis. There is a higher fever, however, than can be explained by the catarrhal symptoms, greater muscular weakness, and greater prostration. If uncomplicated, the disease usually runs its course in from five to eight days. The complications to be especially dreaded are bronchitis, pneumonia, and otitis.

The next most frequent type of grippe

is the muscular. There are fever, headache, loss of appetite, prostration, and great muscular weakness. There is little or no involvement of the respiratory tract.

The third type includes the cases in which the intestinal symptoms predominate. I saw about twenty of these cases during the winter of 1890–91. The children were taken suddenly with fever, prostration, and diarrhœa which was very hard to control. There were from eight to sixteen green, watery passages daily, containing a moderate amount of mucus, streaked with blood. There were also slight cough and coryza, with considerable congestion of the throat.

In the fourth type the nervous system is chiefly affected. These patients have the fever and muscular soreness common to all varieties, with the prominent symptom—excessive irritability. In some cases there seems to be almost entire loss of self-control. The patients are peevish, fretful, depressed and hysterical by turn. They cannot bear the slightest noise, and

sleep only when under the influence of drugs.

The severe cases, however, have two symptoms common to all—fever and intense prostration; prostration and weakness out of proportion to all objective symptoms are the peculiar characteristics of grippe. I have lost two patients aged, respectively, three and four months, in both of which the system was completely overwhelmed by the virulence of the grippe poison. Both children died in less than twenty-four hours, apparently from exhaustion. Post-mortem examination failed to detect in either case any organic change sufficient to cause death.

A very unpleasant feature of grippe is the wretched physical condition in which the patient is often left after the acute symptoms have disappeared. Weeks of the most careful treatment will frequently be required to restore his previous good health. There is no specific treatment for this disease. Every case must be treated according to the symptoms presented. For those which fail to make prompt re-

covery, a change of climate should be advised. Many of my patients have done surprisingly well at Lakewood, or at Atlantic City.

CONVULSIONS

A convulsion is a temporary loss of consciousness, associated with rhythmical contractions of various muscles of the body. Rachitic, delicate children and those suffering from malnutrition in any form are predisposed to convulsions. Disturbances in the gastro-intestinal tract, due to errors in feeding, have been the cause in ninety-five per cent. of my cases. Nearly all were seen among the badly bottle-fed or in those beyond the bottle age who had been given food unsuited to their years. I have frequently known seizures to follow an unusual indulgence in cake, pie, or fruit. Excessively high fever may be a cause of convulsions. Pneumonia, meningitis, and contagious diseases are sometimes ushered in by convulsions. Heat prostration and worms may be mentioned as infrequent causes. A patient of mine,—a boy three

years old, had repeated convulsions until he was relieved of forty-three large round-worms. According to my observation, dentition is never an immediate cause. The dentition period covers eighteen months, and children often have convulsions during this time; a thorough examination of the patient, however, will usually reveal the seat of the trouble in the intestinal canal or stomach. Dentition may indirectly be a factor. A few years ago a mother insisted that I should lance the healthy gums of a girl eighteen months of age, who repeatedly had convulsions. This I refused to do, and ordered, instead, two teaspoonfuls of castor-oil. The child passed one-quarter of a partially masticated orange and the convulsions ceased.

When a child is attacked, prompt action is necessary. The family physician should be sent for and the patient placed at once in a mustard bath at a temperature of 105° F.; an even tablespoonful of mustard should be added to five gallons of water. The patient should

not be allowed to remain in the bath over fifteen minutes, when he should be removed and dried vigorously. If possible, the child's temperature should be taken while in the bath, and if above 102° F. (in convulsions it usually ranges between 104° F. and 106° F.) the temperature of the water should be lowered to 75° or 80° F. by the addition of ice or cold water. Watch the effect of the cooling of the bath upon the child's temperature, and when it is reduced to 101° F., remove him. The temperature in convulsions should always be noted. To my mind the high fever has oftentimes a great deal to do with the seizure. Not long since I was called to see a child in convulsions. Upon my arrival I learned that he had been put into a hot bath at 110° F., and kept there fifteen minutes, but the child showed no signs of improvement. The temperature was taken while in the bath, and registered 111° F., as high as the thermometer would register. In this case the hot bath was the worst means of treatment

that could be devised. There is no advantage in making the water hotter than 105°. In the bath, or immediately upon removal, give an enema of soap and water so as to insure a movement of the bowels as soon as possible. As soon as the child can swallow, one or two teaspoonfuls of castor-oil should be given. If it is known that the child has taken something indigestible, a teaspoonful of syrup of ipecac should be given, and repeated in twenty minutes if vomiting does not follow. The convulsion is very apt to be repeated if the cause is not removed. The patient should not be held on the lap. He should be placed in his crib and kept very quiet. Cold cloths should be applied to the head and a hot-water bag to the feet. No solid food or milk should be given for twenty-four hours; broths and barley-water should constitute the diet. During the next few days there should be no excitement, and the physician's orders regarding medication and diet should be carefully carried out.

COLIC

There are few children who reach the age of one year without having suffered from colic. Infants in the earliest months of life are particularly susceptible to such attacks. The majority of cases are seen in children under five months of age, although the seizures may continue until a much later period. During the attack the child cries violently, becomes red in the face, clinches its fists, draws up its legs, doubles up its body, and straightens out again. The abdomen is hard, often distended, and the hands and feet are cold. The child rests a few moments and cries again. Often all attempts at comforting him fail. An attack may continue from a few moments to an hour or more, perhaps until the child sleeps from exhaustion. I have had children brought to me for treatment who were so hoarse from crying that they could scarcely utter a sound. There may be several attacks a day after the feedings or they may not appear until evening. Afternoon or evening colic is probably most frequent.

These cases are easily explained. The overtaxed stomach has done its work fairly well early in the day, but as the improper, frequent feedings follow, it becomes tired and refuses to work "overtime." During the night some rest is obtained, but the following day the entire programme is repeated. So-called colicky children are often otherwise perfectly well. If the trouble is not particularly severe, they may be well-nourished and well-behaved babies when not in pain. In the severe cases there is apt to be evidence of marked malnutrition. It is often remarked that "a baby must do just so much crying," and nothing is done to relieve it. If one baby cries more than another it is because he suffers more. A baby rarely cries unless he is uncomfortable or in pain. He may cry while his clothing is being changed because it disturbs him; he will cry from cold, hunger, from the effects of a misdirected pin, or from pain of any nature, but never without any reason. The general tendency of the

child is to play, to smile, and be happy. When this is not the case something is wrong.

Colic in every instance means indigestion. It means, that whether breast-fed or bottle-fed, the food is not suitable,—is not adapted to the child's digestive powers, or not properly given. The child who suffers from habitual colic is usually constipated. It has been my experience that the chief error in the diet causing the colic was the excess of the proteid—the curd-forming element in the milk. It is thus practically useless to give carminatives and soothing syrups, and other remedies of a sedative nature. Whatever error may exist in the feeding must be corrected. If the patient is a breast-baby we must treat the mother,—the source of the child's nourishment. Nursing mothers of colicky babies are usually of sedentary habits, hearty eaters, and constipated. Our first step must be to cure the constipation of the mother. She should have one full free passage from the bowels daily. She should exercise in moderation in the open

air: a walk of an hour or two in the morning, and an hour in the afternoon, will be most beneficial. Her diet should consist of fresh meat, poultry, fish, cereals, soups, baked potato, green vegetables, and stewed fruit. Coffee may be taken in moderation; milk, cocoa, chocolate, and water may be taken freely. A nursing mother should drink no tea. It is a popular idea that tea is a very necessary article for the nursing mother. Hardly a week passes but I hear from the out-patient mother of a sick breast-baby that she is drinking from one to two gallons of tea a day. The tea is kept "on the back of the stove," so as to be ready for use at any time. I have relieved many cases of colic in the child simply by curing the mother's constipation and regulating her diet.

Menstruation often causes temporary attacks of colic and other digestive disturbances in the child. Fright, anger, worry, or anything in the nature of a shock in the mother will often seriously affect the child's digestion. In short,

when the nursing child suffers thus from digestive derangements, the error, nine times out of ten, rests with the mother. The trouble is rarely with the child.

As previously stated, habitual colic in the bottle-fed tells us that we are not giving the child a suitable food, or that we are not giving a suitable food properly. The food as a whole may be too strong or too weak. It may be given too frequently. If cows' milk is the diet, the error is often due to improper modification. The proteid will usually be found in excess; not in excess, perhaps, for the average child, but in excess for the patient in question. There can be no set rules for feeding or definite formulæ for various ages that are infallible. The food of artificially fed children must be adapted to meet their individual requirements. The treatment of habitual colic in the bottle-fed consists in rendering the food suitable.

For the relief of immediate attacks, an injection of from six to eight ounces of water at 110° F., to which one-half teaspoonful of salt has been added, will

often be of service. Five to eight drops of gin in a teaspoonful of warm water, by mouth, is sometimes useful. Two-drop doses of Hoffmann's Anodyne in two teaspoonfuls of hot water will frequently cut short a severe attack. Both the gin and the anodyne may be repeated in one-half hour if relief is not obtained. If the attack is prolonged, a hot-water bag should be placed at the feet, and flannels wrung out of hot water applied to the abdomen. Oftentimes, in order that the digestive organs may have a complete rest, it is advisable to discontinue the regular food for a few hours, and give barley-water as a substitute.

CONSTIPATION

Among the derangements of the young, there are few which give more annoyance or are harder to manage successfully than constipation. The causes of the trouble are anatomical and dietetic. The comparatively long large intestine folded upon itself in the narrow pelvis offers an obstruction to the free passage of the

intestinal contents. The lack of development of the muscular structure of the intestine is also a cause. Deficient nerve power, due to lack of development of the sympathetic nervous system, is thought by many to be an important factor. In all probability all these agents may be regarded as predisposing causes of constipation. The chief cause of constipation, however, according to my observation, is the proteid (the curd) in the child's milk. When the amount of proteid is excessive,—a higher percentage than normal,—the child will be constipated. A child fed on a normal proteid with a low fat will also probably become constipated on a milk perfectly adapted, because of the difficulty of digesting cows'-milk proteid, or because the heating of the milk is carried too far. Among the breast-fed, the dietetic management of this disorder is difficult, for it is hard to change the character of the mother's milk. Much may be done, however. Inquiry into the daily life of the mother will usually disclose sedentary habits, a

good appetite, a fondness for tea, and, probably, constipation. An examination of the milk of these mothers will show that the normal proportions of fat, proteid, and sugar are not maintained. The percentage of proteid is usually found to be higher than normal, with low or normal fat.

The first step in the treatment is the regulation of the habits of the mother. The bowels should be evacuated daily, with a laxative, if necessary. She should be placed on a diet of fresh meat, fresh vegetables, and fruit. A malt liquor with luncheon or dinner is also sometimes recommended. She is instructed to take at least three hours' exercise daily in the open air. This régime will diminish the proteid and increase the fat in her milk, and not only relieve constipation in the child, but insure better nourishment and a later weaning than would otherwise be possible. The treatment of the mother is all that is necessary in a considerable number of cases, but when this fails, the child demands attention.

In treating the child my first step is to give cream ; not cream purchased as such, but cream which rises upon the best milk obtainable. I give from one-half to two teaspoonfuls in quite warm water immediately before nursing. The use of the gluten suppository at the same hour for several consecutive days will do much to establish the habit of a passage at a regular hour each day.

In case the cream does not agree with the child or is ineffective, pure cod-liver oil—fifteen to thirty drops three or four times a day—may prove beneficial. When these measures fail, as they will in a small number of cases, further medication will be required.

The treatment of bottle-fed and "run-about" children is much easier and the results more satisfactory. It is, moreover, very simple, and resolves itself largely into a manipulation of the fat and the proteid. Given a bottle-fed child, six months of age, suffering from obstinate constipation, and the proteid should at once be cut down to a minimum by

prescribing a cream, water, and sugar mixture. This should be given raw, if practicable. A 16-per-cent. cream is desired. Allow the milk which is delivered in bottles at about six o'clock in the morning to remain in the refrigerator until noon, when all the cream is removed. If the milk is good, the cream will contain approximately 16 per cent. of fat; if it deviates from this figure, the percentage will probably be lower. I use the pint (sixteen ounces) for a standard. If we mix one ounce of this 16-per-cent. cream with fifteen ounces of water, we will have a 1-per-cent. fat mixture. If two ounces of cream are mixed with fourteen ounces of water, a 2-per-cent. fat mixture will result; if four ounces of cream with twelve ounces of water, we will have a 4-per-cent. fat mixture. But our 16-per-cent. cream contains more than fat. It contains also, approximately, 3.2 per cent. proteid and 3.2 per cent. sugar. If, then, we are to prepare a food for this six-months', constipated baby, we need a high fat mixture,—four per cent., with a low

proteid. In order to obtain it, we use four ounces of cream and twelve ounces of water. This, as will easily be seen, will furnish us a 4-per-cent. fat, 8-per-cent. proteid, and 8-tenths-per-cent. sugar. The fat is as high as we wish it, the proteid low where it ought to be, but the sugar is too low, and this we increase by the addition of milk sugar or cane sugar.

A word about the low proteid,—.8 of one per cent. Compared with the mother's milk it is low, but we must remember that in our modifications we are not dealing with mothers' milk. In many cases it is unwise to attempt to give as high a proteid as that contained in mothers' milk, for the reason that it is more difficult of digestion, and, by reason of its higher nutritive properties, it is not required. In case the reduction of the proteid is impracticable, or does not furnish relief, I add to each feeding of the cream or milk mixture, one or two teaspoonfuls of Mellin's food or malted milk, which will often act as a satisfactory laxative. In older

children,—eight or twelve months of age, —cream diluted with water is often given with oatmeal jelly,—one or two tablespoonfuls to each feeding. It is extremely rare for a case to resist this treatment, and when it happens I usually find the stool soft when voided, deficient peristalsis being, doubtless, the cause of constipation. In such cases medication is required.

In "run-about" children the use of cream and water mixtures, rare meat, green vegetables, stewed fruit, zwiebach, and bran biscuit, renders the management of constipation exceedingly simple. The meals must be given at regular intervals, and crackers, bread, potatoes, and other coarse, starchy foods excluded. The more the milk is heated the greater its constipating effect.

It is our hope in treating constipation to relieve the patient by the dietetic measures above suggested. When these fail, we must resort to other means. Enemas and suppositories may be used occasionally, but the child should not become accustomed to them. In the severe cases

which resist dietetic treatment, the outlook for an early recovery is not promising.

VACCINATION

Every baby in fair health should be vaccinated not later than the third month —before any trouble incident to dentition may arise; for the younger the child, the less the constitutional disturbance. Vaccination in a child two to three months of age causes practically no illness whatever. Both sexes should be vaccinated on the outer side of the calf of the leg: girls, because the resulting scar on the arm may be regarded, in later life, as a disfigurement; and both boys and girls, because when the sore is on the leg it is more easily cared for. In dressing and undressing a child, the arm has to be manipulated to a considerable extent, thus causing more or less discomfort. The wound should be kept covered with a sterilized gauze bandage until the crust falls, leaving the dry pink skin underneath. Tub bathing should be discontinued until this takes place.

Vaccination shields are all worse than useless; they are often positively harmful, for they usually become displaced and may irritate and infect the sore. When unpleasant results follow vaccination, the virus is rarely at fault. The infection is usually due to carelessness or to uncleanliness in the treatment of the wound.

Vaccination will always be considered by people who enjoy the possession of an ordinary amount of knowledge and a moderate amount of common sense as one of the greatest discoveries of medical science. Since its discovery by Jenner, as statistics show, millions of lives have been saved by vaccination. It would seem strange that one should feel it necessary to speak in defence of a measure which has been of such incalculable value to the human race, but there are a noisy lot of mentally incompetent anti-vaccinationists, who are not without influence among their kind, and the otherwise ignorant, upon whom the following statistics by Allen (*Pædiatrics*, February, 1900) would produce no effect.

In 1871, Germany lost one hundred and forty-three thousand lives by smallpox; in 1874, a law was enacted making vaccination obligatory during the first year of life and compelling its repetition during the tenth year. The result was that the disease almost entirely disappeared. At the present time the loss of life from this disease throughout the empire is scarcely one hundred a year. At the time of the Franco-Prussian War, the entire German Army was re-vaccinated; while in the French Army vaccination being optional comparatively few were vaccinated. Both armies were attacked by smallpox, the French losing twenty-three thousand men, the Germans, two hundred and seventy-eight. With such statistics how can there be any plausibility in the argument of the anti-vaccinationists?

BED-WETTING.

The urine is voided involuntarily by most children until well into the second year. If the child is carefully trained, the function of urination may be under perfect

control during the waking hours by the end of the first year. We hear now and then of a child who urinates voluntarily at the age of six months. Such children are rare. The urine is passed normally during sleep until the child is two and one-half or three years of age. In many this will be controlled at the end of the second year, but I do not regard the lack of control as an abnormality until the third year is reached. If the urine is passed involuntarily after the child is three years old, a physician should be consulted, not necessarily to give drugs, but to instruct the mother as to the diet and general hygiene.

Incontinence of urine may be due to a great variety of causes, among which may be mentioned a highly acid urine, stone in the bladder, which is of comparatively rare occurrence, adenoids, thread-worms, constipation, inflammation of the vulva and vagina in girls, and tightly adherent foreskin in boys. By far the greatest number of cases, however, are due to a lack of development of the nervous system and, in addition, a bad habit. Not

infrequently the trouble is caused by too freely indulging in water and milk late in the afternoon and during the night. It is rarely a symptom of kidney or bladder disease. The relief of the inveterate bed-wetter of five or six years of age is often most difficult. The child must be examined by a physician to determine that there is no local cause for the trouble. If no such cause is found, well-directed medication, with the mother's coöperation, will usually relieve the patient, although it may require months to do it. In the cases of only occasional bed-wetting, and with younger patients, the mother alone can often accomplish considerable. No water or milk should be given after four o'clock, P.M. The child should have a dry supper, for which I would suggest farina, hominy, or rice, any of which may be served with butter and a little sugar. If the child will not take the cereals without milk, a very little may be added. This with stewed fruit and a piece of bread is sufficient. The child's bedclothing should be light, and he

should be made to sleep on his side, not on his back. In order to prevent the child resting on his back, tie a piece of any thin goods about the body, with a large knot between the shoulders. The child should always be taken up at ten or eleven o'clock, and made to urinate.

If there is phimosis, vaginitis, thread-worms, or any local disorders, treatment of the local conditions may effect a cure.

A few bed-wetting children are troubled with incontinence during the day as well. There is a constant leakage, the clothing being wet the greater part of the time. The management of these cases, however, differs in no respect from that advised for those first mentioned.

CARE OF THE GENITALS

PAINFUL MICTURITION ; CIRCUMCISION

In girls very little care of the genitals is required other than cleanliness. The parts should be washed in boiled water and castile soap once a day. Sponges should not be used. Soft old linen is far better, and after once using it should be

burned. A sponge is never clean after it has once been used, and should have no place in the nursery outfit. A nurse should never begin the baby's bath until she has thoroughly cleansed her own hands with soap and hot water. After cleansing, the parts should be dusted thoroughly with the following powder: boracic acid ten grains, powdered starch and oxide of zinc each one-half ounce.

With boys more attention is required. The normal condition, a free foreskin, non-adherent to the glans penis, is necessary for his comfort and health. It should be stripped back once a day and the parts washed very gently with castile soap and warm water, dried with absorbent cotton, and a bit of vaseline applied. In the majority of boys the foreskin at birth is tightly adherent to the glans, with only a pin-hole opening. Such a condition is one of much annoyance to the child. Secretions which act as a foreign body form under the foreskin, producing no little irritation, drawing the child's attention to the parts, and thus often leading directly to

the habit of masturbation. Inflammation of the foreskin and urethra not infrequently follow this condition. As a result, urination is painful and the urine is retained until the child cannot pass it. I have known children for this reason to hold their urine for over twenty-four hours. In two cases which came under my observation, pus formed under the foreskin, necessitating immediate operation. In two boys aged about two years, repeated convulsions occurred, for which no reason could be assigned other than the irritation caused by the tightly adherent foreskin and the retained secretions. They were circumcised, and have been perfectly well during the two years which have intervened. Bed-wetting is often a direct outcome of this trouble.

Four out of five of the boys who come under my care need circumcision. This does not mean that four out of five are circumcised, as family objections are often hard to overcome, even where the physician is convinced that such a measure would be beneficial. In a very few cases,

stretching and retracting the foreskin may answer every purpose. But such cases are rarely attended to properly afterward ; no matter how careful the instructions given, the adhesions are allowed to re-form, and in a short time all the annoying symptoms return. When a child is properly circumcised he is relieved for all time.

RETENTION OF URINE

This condition often greatly alarms mothers. In girls, the most frequent cause is pain due to the inflammation of the urethral orifice and the adjoining parts, which may have been caused either by excessive acidity of the urine, or by vaginitis. Retention sometimes results from taking cold ; high fever is sometimes a cause, and, in some instances, no cause can be discovered.

In boys the retention may be due to urethral irritation produced by excessive acidity of the urine ; far more frequently, however, the trouble is caused by an inflammation of the foreskin, which is often swollen to three or four times its normal

size. In these cases the orifice of the urethra will usually be found red and swollen. In either sex, if there is retention of the urine for over sixteen hours, place the child in a tub of warm water at a temperature of 110° F. and often urination will follow immediately. Another useful method of treatment consists in the application to the parts of cloths wrung out of hot water. Perhaps the best results are obtained by the use of an enema of a normal salt solution,—a teaspoonful of salt to a pint of water,—at a temperature of 110° F.; at least a pint should be used for this purpose and the child allowed to retain it if he will. This treatment rarely fails. If it does, the doctor must use the catheter. The swelling of the parts in boys is best reduced by a wet dressing of a saturated solution of boracic acid, which is applied on old linen wrapped around the parts and changed every half-hour. In girls a simple pad composed of several layers of old linen should be saturated with the boracic-acid solution and similarly applied,

the dressing being changed every hour, and the parts gently bathed with the solution.

NOSE-BLEED

Nose-bleed may result from a fall or blow, or from any direct injury to the nose. In most instances, however, it occurs independently of injury. Adenoids are frequently a cause of nose-bleed. Small ulcers often form on the nasal septum of delicate, poorly-nourished children, and give rise to most obstinate hemorrhage. Habitual and severe nose-bleed, particularly from one nostril, is usually due to this cause. Whatever may be the cause of the hemorrhage the immediate management must be the same. The child should sit erect and the nose be firmly compressed for twenty minutes between the thumb and finger. The tips of the thumb and finger should touch the lower portion of the nasal bones. The application of ice is also beneficial; a small piece of ice being wrapped in a handkerchief and held against the nostril from

which the blood is flowing. After the hemorrhage has ceased, continue the application of ice-cloths for one-half hour, and watch the child so as to prevent his blowing the nose. If the hemorrhage is severe, or if slight hemorrhages are repeated, a physician must be consulted.

WORMS

There are three varieties of worms commonly met with in children ; the round-worm, the thread-worm, and the tape-worm.

Round-worms occur most frequently in children from two to ten years of age, although no age is exempt. When a child picks its nose, grinds its teeth at night, sleeps poorly, has a coated tongue, and an indifferent appetite, it is supposed by the older members of the family to have "worms." These symptoms may indicate the round-worms, but they far more frequently indicate a too close acquaintance with gingerbread and jam and other cupboard, between-meal indulgences. Frequent attacks of colic, constipation

alternating with diarrhœa, and convulsions are, in my judgment, the most reliable symptoms of round-worms. The only positive means of diagnosis, however, is the discovery of the worm itself, or the presence of the eggs in the stools. The round-worm resembles the common earth-worm. It is usually from five to nine inches in length and inhabits the small intestine. Round-worms are seldom seen among city children; in the country, however, they occur with much greater frequency.

Thread-worms inhabit the lower portion of the large intestine, and in appearance are like pieces of white thread. They are usually from one-quarter to one-half inch in length. They are very frequently seen among the dirty children of the tenements. Occasionally they occur in children of the better classes.

The chief symptom of these worms is an itching or irritation about the anus. The child is restless and sleeps poorly. In girls there will be a vaginal discharge due to the irritation caused by the worms, which have migrated to these parts.

Frequently the only symptoms of discomfort will be manifested when the child is put to bed. He will then complain of a biting, burning sensation in the rectum. In some, the rectal irritation is so great as to cause very pronounced nervous symptoms.

Some years ago I treated a six-year-old girl for involuntary movement of the arm and shoulders somewhat resembling St. Vitus's dance. The trouble disappeared after several weeks' treatment for the thread-worms which were present in large numbers. I have seen many cases of prolapse of the bowel due to the straining which was caused by the irritant action of the worms. In both sexes they may be a cause of bed-wetting and in girls are not an infrequent cause of masturbation. In some instances after treatment the worms will be passed in great numbers in the stools, and may sometimes be seen adhering to the skin of the parts.

Tape-worms in children are very rarely seen in this country. I have seen but

one case among many thousands of children treated during the past twelve years. The presence of the tape-worm is indicated by various indefinite manifestations. Constipation alternating with diarrhœa, are prominent symptoms. The child is often ravenously hungry. A positive diagnosis can be made only after the discharge of segments of the worm, which appear like short pieces of narrow white tape linked together.

The diagnosis and treatment of worms in the children of the household appear to be a jealously guarded function of the good grandmother. Young mothers, however, will do well to have the family physician usurp this prerogative.

CUTS, BRUISES, AND SPRAINS

Apparently every child must have his share of cuts and bruises. In case of a cut with considerable hemorrhage, pressure to the injured parts with cloths saturated with cold water will aid in checking the hemorrhage ; later, a wet dressing of a saturated solution of boracic acid

may be applied on clean muslin or clean old linen.

If there is a bruise with much swelling to be treated, the wet dressing with the boracic-acid solution will relieve the condition. The dressing may be continued for two or three hours if required, the bandages being frequently saturated with the solution in order to keep them wet until the doctor arrives.

A sprain may be treated in a similar manner. The wet bandages should be bound around the injured joint, which, if a lower extremity is involved, is kept on a level with the body. Severe sprains, cuts, and bruises require medical attention at the earliest possible moment.

EXCITEMENT

A baby should not be subjected to excitement or its equivalent—too active entertainment. The nervous system of an infant is in such an undeveloped state that what would be a decided tax upon it cannot be appreciated by adults, who are often apparently insensible of the

fact that children are different from themselves.

The first child in a well-to-do family is usually the greatest sufferer from superfluous attention,—being a source of unending admiration on the part of family and friends. He is present very early in life at all important functions. Christmas, Thanksgiving, birthday celebrations, and afternoon teas find him the centre of attraction. He is handed from one guest to another and is tossed upon various angular knees. He is kissed by lips which dare touch only those who cannot protect themselves. He is talked to with a very loud voice in many languages which no one understands, and grimaces are made at him that can be seen at no other time. I have witnessed such scenes many times, and have treated many exhausted infants who required medical attention after the *séance* was over. I have, indeed, seen infants brought thus to the verge of collapse. One child of eleven months had convulsions which were indirectly due to the fatigue incident to a Thanksgiving celebration.

KISSING

The baby should never be kissed upon the mouth by any one. Make this a rule and enforce it. A servant who is seen kissing a child after having been forbidden to do so should be discharged at once, no matter how valuable she may be. She is unsafe. Tuberculosis, diphtheria, influenza, syphilis, and all the infectious diseases may be transmitted in this way. I have treated an infant for syphilis which was transmitted by a kiss from a diseased woman. Kissing the baby upon the hands is almost as dangerous as kissing him upon the mouth, for during the next few seconds the baby's hands will surely find their way to his mouth.

SLEEP

A child who is a good sleeper will, almost without exception, be a well-nourished, normal child. I never knew a child of any age that I thought slept too much. Children vary greatly as to habits of sleep, and no hard and fast rules can

be laid down to govern it. Children of one or two months will sleep from twenty to twenty-two hours out of the twenty-four. As they grow older less sleep is required, and at one year twelve to fifteen hours daily usually suffices. As to when the child should discontinue the morning or afternoon nap, the mother alone must be the judge. If the night's rest is interfered with by too much sleep during the day, the latter must be cut down, either the morning or afternoon nap being shortened or discontinued. After the first year the child should not be allowed to sleep between 3:30 and bedtime.

CRYING

Much has been written regarding the diagnostic value of the infant's cry. There is supposed to be a special cry for earache, and another for stomach-ache ; then there is a cry for anger, a cry for hunger, a pin-sticking cry, and various other cries, which depend for their recognition upon the fertility of the imagination

of the writer. There is a difference between the cry of pain, the cry of hunger, and the cry of anger ; further than this we cannot go. A moderate amount of crying is of advantage to the young baby, for the muscular movements that accompany it provide the means for his needed exercise. In this way the lungs are expanded and the blood is purified.

The habitual criers, the restless, whining infants, are uncomfortable ; something is wrong. The trouble with these infants will very often be found in the gastro-intestinal tract,—they suffer only from indigestion. If well trained, a healthy child whose nourishment is as it should be is never troublesome. Babies are all naturally good-natured and happy in their own way.

Inflammation of the skin of the buttocks and genitals is often a cause of a great deal of discomfort, as are also tight clothing and over-dressing, particularly in summer. Badly managed babies, —those who have been spoiled by too much attention, cry when left alone, but

when they are taken up and talked to the crying ceases. Such cases require discipline only.

CLEANLINESS

Much has been said and written regarding the necessity of cleanliness so far as the child is concerned; but not only should the nurse and mother see that the baby is clean; they must be clean themselves. Immediately after every attention to the napkin the hands should be washed with hot water and soap and a stiff brush. This cleansing process must be repeated before the preparation of the food or any manipulation of the feeding apparatus.

The child's attendants should not have decayed or neglected teeth. The tooth-brush should be an important article in the outfit of every nurse. She should take a tub bath or sponge bath daily. The hands and finger-nails of many nursery-maids will bear watching.

COLD HANDS AND FEET

The hands and feet of the infant should never be cold to the touch. This is a

cause of much of his discomfort and restlessness. A very young child with poor circulation will be made much more comfortable by placing a hot-water bag at his feet. Bottles filled with warm water and wrapped in flannel will keep the upper extremities warm. In using hot-water bags and bottles be sure that the water is not too hot. Severe burning accidents have resulted from carelessness in this particular.

FOREIGN BODIES SWALLOWED

The child's stomach is a frequent receptacle for objects for which it was never intended. Pins, buttons, safety-pins, small pieces of chalk, pencils, etc., often find their way into the stomach of the "run-about" child. I knew one child to swallow an open safety-pin, and another to swallow a stick-pin, the head of which was a small four-leafed clover. Both children passed the pins without the least harm resulting. In order that the object swallowed may not injure the child, give starchy substances in large amount : oat-

meal, potatoes, corn-meal mush, — substances which in the intestines form a semi-solid mass in which the object swallowed may become imbedded and carried forward. These cases should never be given castor oil or any other laxative.

FOREIGN BODIES IN THE EAR AND NOSE

This subject is brought to the attention of mothers, to warn them against any attempt at the removal of foreign bodies from the nose or ears of one of their children. The means often thus employed, such as hairpins, button-hooks, etc., should never be used, as they are liable to do much harm. I have often removed shoe-buttons, peas, beans, pieces of coal, and pebbles from the nose, and have had trouble only with those cases in which some member of the family had attempted the removal with the result of forcing the foreign body farther into the cavity. When the foreign body is in the nose, the child, if old enough, can sometimes remove the obstacle by pressing upon the

unobstructed nostril while he vigorously blows the nose.

DANGERS FROM FLIES AND MOSQUITOES

The windows of the nursery should be screened so that flies and mosquitoes cannot enter. When out of doors the very young child should be protected by mosquito-netting. Mosquitoes severely poison many children, and are of especial danger in that one variety is capable of inoculating the child with malaria, the *plasmodium malariæ* being deposited along with the other poison.

Flies, in addition to disturbing sleep, are a source of much danger which is but little appreciated. The fly enters the nursery and alights on the nipple of the nursing-bottle. This may take place while the child is resting for a second or two during his meal, as flies are very fond of the sweet milk which may adhere to the nipple; or the fly may alight upon the child's bread, or the prepared cereal, or any article of food, par-

ticularly if there is a sweet element in it. The last place the fly rested before reaching the nursery we never know. It may have been on animal excrement, or tubercular sputum, or the infectious discharges of a typhoid-fever patient. In this way the flies' feet and legs are the means of transporting the germs of yellow fever, cholera, tuberculosis, typhoid fever, or diphtheria. Tuberculosis is unquestionably transferred in this way very frequently, minor ailments with still greater frequency. Flies are a source of danger in the house, and should be driven out or destroyed.

WHEN TO SEND FOR THE DOCTOR

This question is easily answered. Send for the doctor when there are any indications of illness in the child which the mother does not understand. It is better to be overcautious in this respect than to join the great number of mothers who are never free from the bitter, life-long regret, "The child might have been saved had he been treated in time." I know such mothers.

There are two conditions in which the mother must not trust herself for a moment. These are summer diarrhœa and sore throat. "Only a summer diarrhœa," and "only a sore throat," and "only a teething diarrhœa," have sacrificed the lives of hundreds of infants.

Diphtheria is a very prevalent disease, and the successful treatment of it requries that the child be seen by the physician at the earliest possible moment. So, also, with summer diarrhœa. I have seen infants die in twelve hours with the disease. Calling a doctor early is a means not only of safety, but of economy. In the correction of slight ailments, grave ones are avoided.

PATENT MEDICINES

Patent medicines should form no part of the nursery outfit. The mother's home remedies should all be approved by a physician. Cough mixtures and soothing syrups, the advantages of which are so faithfully portrayed in the popular magazines and religious periodicals, are

often very harmful. Most of them contain opium and morphine. Time and again I have seen children drugged to the point of stupor by these remedies.

SUMMER RESORTS

Where to take the child for the summer is a vexed question which arises once a year in many households. Several years of observation of a great many children who have spent the summer out of town have led me to the following conclusions:

1. The most desirable summer outing: the first half of the season at the seashore, the remainder inland, preferably in the mountains.

2. The next in order of desirability: inland, preferably the mountains for the entire summer.

3. The least desirable, the seashore for the entire summer.

I do not wish it understood that many children will not do well at the seashore if kept there the entire summer; some, indeed, improve wonderfully, but among my own patients I have been repeatedly

impressed with the disadvantages of a prolonged outing by the sea. The seashore children, as a rule, do not return to the city in the fall with the vigor, appetite, and general robustness which characterize those who return from the mountains. I refer only to New York children whose home is a seaport, and who thrive best when given the advantage of a complete change to the dry, invigorating air of the mountains. Children with catarrhal tendencies, adenoids, bronchitis, and rheumatism, and those convalescent from pneumonia, should not go to the seashore.

In selecting an inland resort, the mountains, by which we understand an elevation of from fifteen hundred to two thousand feet, are not always necessary. The place selected, however, should have an elevation of at least six hundred feet, and should not be within sixty miles of the coast. Children who are subject to rheumatism and bronchitis do best on a sandy soil, in a dry climate, with the sleeping rooms above the ground floor.

Another point to be considered in this connection is the kitchen facilities which will be provided for the preparation of the child's food. As a rule, the larger hotels refuse the right of way to the kitchen ; or, if they do not, it is at the expense of many material attentions to the *chef*. I find that mothers are given much more latitude as to these matters in the smaller hotels and boarding-houses. The proper preparation of a child's food in the cramped quarters of the sleeping apartment is not impossible, but it is very difficult.

Before selecting a summer home, the drainage, the milk, and the water supply must be considered. If the parents possess the means, a cottage should be rented which will insure them all the comforts of home.

DRUG-GIVING

Drugs are of service only in the hands of those who are trained in their use. Mothers often acquire the habit of treating their children. Self-prescribing is

greatly overdone in this country among all classes. Many people know just enough about medicines to be dangerous members of society. The proprietary cough mixtures, soothing syrups, teas, carminatives, etc., are often injurious. They usually contain opium,—a drug which a mother should never think of giving her baby on her own responsibility. It is not at all uncommon in hospital work to have children admitted in an opium stupor which resists all treatment for hours.

While the habit of promiscuous drug-giving is to be condemned, the mother is not supposed to remain inactive while awaiting the arrival of the physician; a preliminary dose of castor oil in diarrhœa, or syrup of ipecac in croup, or rhubarb and soda when there is a furred tongue in indigestion, will always be in order. The mother may have her home remedies, but the physician must instruct her in their use.

DAYS TO GO OUT

The baby should not go out in stormy weather. If under one year of age he

should not go out if the temperature is below 20° F. During the midday heat of summer the baby is better off in the largest and coolest room in the house or on a shady veranda. On very windy days the outing should be postponed. When the snow is melting in large quantities the baby is better off in-doors. On stormy and very cold days give an in-door airing. For this the baby is dressed as for the daily outing. All the windows of the nursery or some other large room are opened and the child is placed in his carriage and wheeled about the room for an hour. This method of giving a child fresh air will be found particularly useful with the very delicate, who, by reason of their condition, are not able to go out of doors for weeks at a time.

CHILDREN'S PARTIES

It is a custom very common in New York City to give birthday parties for children from one to four years of age. The first party is usually given when the child is one year old, to celebrate that

event. With each succeeding year the party is repeated, from six to ten little guests being usually invited. The little host is too young to entertain the six to ten little guests unassisted, and the services of the fond, proud mother are required. The six to ten little guests are too young to make the journey unattended, and they must be accompanied by their six to ten fond, proud mothers. The six to ten fond, proud mothers then have an excellent opportunity to point out to one another the hidden merits of their respective offspring.

I have been present at a few of these parties. An all-important feature of the interesting programme is the banquet; the menu consisting principally of animal crackers, pink and yellow ice-cream, and red lemonade. The party usually breaks up at the end of three or four hours and each little guest is removed to his home, tired and nervous from the excitement of the occasion, with a stomach filled with forbidden and unusual articles of diet. He is promptly

taken with vomiting and diarrhœa and perhaps a "birthday-party convulsion."

Time and again I have seen children made seriously ill, and, on two occasions, fatally so, by a birthday party. Not long since a patient,—a little boy four years old, invited fourteen little boys and girls of corresponding ages to celebrate his birthday. The little host was more generous than was his wont; he gave more than the banquet! The night of the birthday party he was very uncomfortable. The following day he developed chicken-pox. In due course of time twelve of the fourteen little guests came down with chicken-pox. They were fortunate that it was only chicken-pox; it might have been scarlet fever or diphtheria.

In the close contact of city life, children are unavoidably exposed to contagious diseases. School children are very liable to become infected, but by this time they have reached an age when they can more easily bear such an illness. The unnecessary bringing together of infants and little "run-abouts" is always to be avoided.

BASKETS FOR EARLY EXERCISE

It is a great mistake to have the infant constantly in arms. The first baby suffers more in this respect than later children. When the child is held, there is always a tendency to make him sit on the arm or the knee without proper support, or to toss about or handle him regardless of consequences. The bones and ligaments of the spinal column are not sufficiently developed to bear the weight of the heavy head and trunk, and, as a result, as the child grows older, spinal curvature and other deformities not infrequently follow. By urging him to stand on the lap the legs are used more than is advisable, and we find bow-legs or knock-knees very prevalent.

A large clothes-basket, in which a thick blanket has been placed (see Fig. 9), furnishes a safe and satisfactory playground. For the first few months the child will rest on his back and amuse himself in his own peculiar way. When he can sit up, supported by a pillow at his back the basket gives him plenty of room for toys and other baby

FIG. 9. BASKET FOR EARLY EXERCISE

requirements. In it the baby is practically safe. He is not apt to be injured by young members of the family in rough play. He cannot crawl to the stove to be burned, and is in no danger of rolling down-stairs. When he can stand, and begins to walk, the basket period is at an end.

NIGHT TERRORS

The child awakens suddenly from sleep, cries out with fear, and begs to be protected from men and animals, which he

imagines are trying to injure him. In some cases the nurse and immediate relatives of the family will not be recognized. The seizures may occur quite regularly every night until the cause is removed. Other children may have but one or two attacks in a week. The seizures are usually due to a disordered digestive tract in a nervous child. Adenoids and enlarged tonsils are considered by some to act as a predisposing cause. Anxiety regarding school duties, or over work at school may help to bring on an attack; worms may also be a cause. My cases have all been due either to acute or chronic digestive disturbances in nervous children. A boy patient twelve years of age has had two attacks every year, with one exception, since he was six years old. These attacks always occur on the nights after Christmas and his birthday, after indulgence in all sorts of unsuitable articles of food.

During the attack the child must be treated with gentleness; scolding makes matters worse. If possible, he should be induced to go to sleep; oftentimes a

change to the bed of the nurse or mother for the remainder of the night will be all that is necessary; or a light may be left burning in the room. The attacks may usually be prevented by a suitable diet. The evening meal should be very light—a cereal with milk and a little stewed fruit is sufficient. This light supper has relieved several of my patients of habitual night terrors.

SCALES FOR WEIGHING

There are, on the market several varieties of scales for weighing the baby, which are known as "baby scales." The usual construction is that of a basket, into which the baby is placed, supported by a rod which rests upon a spring. A needle indicates on a dial the weight of the child. The scales are described in detail, so that the mother may recognize them at sight and not buy them. They get out of order easily, are expensive, and, with a vigorous, kicking, crying baby, the rapid oscillations of the needle prevent the weight being read with any

degree of accuracy. The scoop and platform scales used by grocers (see Fig. 10) answer the purpose far better than any others. They can be bought for three

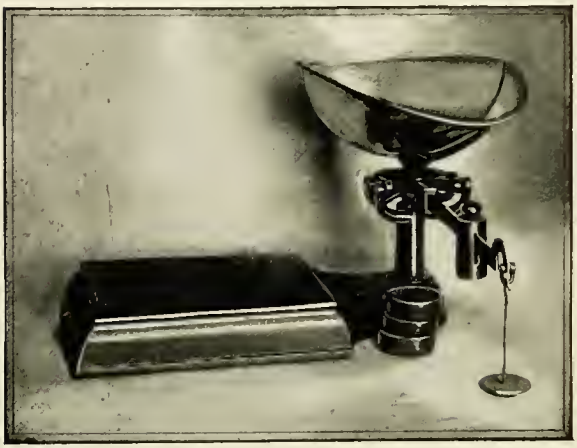

FIG. 10. SCOOP AND PLATFORM SCALES

dollars, do not get out of order, and weigh correctly from one-half ounce to two hundred and eighty pounds.

THE EXERCISE PEN

In a previous chapter, in speaking of cold and how children were exposed to

influences which might bring about what is known as a "cold," the custom of allowing a child to sit on the floor is referred to.

To keep a child from eight to twenty-four months of age off the floor during the winter months, and thereby prevent his taking cold, is a very difficult matter. In fact, with active children who are learning to walk, or who have just learned to walk, it is practically impossible. During this season of the year there is always a current of cold air near the floor, and allowing the child to creep on the floor in winter, even if it is protected by rug and pillows, is one of the surest ways of taking cold. If he is allowed to walk on the floor he is very sure to sit in a very few minutes. If he is not allowed to creep and walk about at will he will not get the proper exercise, and will show faulty development; for such cases I have found the exercise pen (see Fig. 11) of immense service. After being dressed, washed, and fed, the infant is placed in the pen on a rug or quilt, toys are given

him, and the door closed. He can now roam about at will, stand up, sit down, roll, creep, or walk without danger of physical harm from rolling down-stairs, being burned, or being stepped on. He is thus given an opportunity for active exercise without a possible chance of injury.

A young mother of two children will take her "pen" into the country in the summer and place it in the shade for use while the dew is on the grass. The pen can be made of any size,—4 x 6 ft. is probably the most convenient. It is so constructed as to be taken apart and put together in a few moments. In case the nursery is small it can be made so as to fit over the nurse's bed and consequently does not require any additional space. In a large nursery it can be placed permanently in one corner of the room, thus avoiding the trouble of putting it up and taking it down.

NOTE.—The pen is made by Elton Perry, 2123 Broadway, New York.

FIG. 11. EXERCISE PEN

SIMPSON'S MEDICINE SATCHEL

A mother of one or more children, on going to the country for the summer, invariably takes with her certain home remedies and medical appliances which are absolutely necessary for the comfort and safety of the family.

Bottles containing liquids and jars with ointments and boxes of powder are difficult to pack securely, and hard to find when wanted in a hurry. The mother of one of my patients feeling the need of a vehicle, compact and safe, in which she could carry medicines and nursery necessities, devised the medicine satchel (see Fig. 12).

The satchel is 11 inches long, 9½ inches wide, and 9½ inches high. It is strongly made, and so constructed as to rest on one end on a table or mantel, thus forming a cabinet. The bottles and jars are held in pockets of strong leather, which revolve on a steel rod which holds them in position. This satchel will be found admirably adapted for its purpose.

The contents are as follows:

Three eight-ounce bottles,
Nine two-ounce bottles,
Six one-ounce bottles,
Six two-drachm wide-mouthed bottles, with screw metal cap,

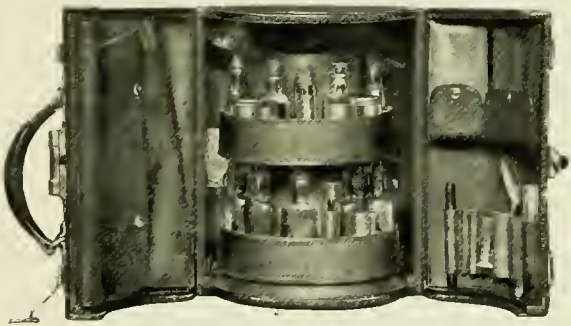

FIG. 12. SIMPSON'S MEDICINE SATCHEL

Three ointment jars,
Fountain syringe,
Hot-water bag,
Ear syringe,
Absorbent cotton,
Mustard plasters,
Court plaster,
Surgeon's adhesive plaster,
Medicine-glass, graduated,
Glass funnel,

Clinical thermometer,
Spoon,
Minim measuring-glass,
Medicine-dropper,
Tweezers,
Scissors,
Corkscrew,
Knife,
Pencil,
Labels for bottles,
Bandages.

FORMULÆ

Beef Juice.—Take a round steak, cut into pieces the size of a horse-chestnut, place in a buttered pan in a hot oven, and bake for fifteen minutes; remove from the pan and press out blood with a lemon-squeezer or meat-press. Or, broil round steak very rare, cut into small pieces, place in lemon-squeezer or meat-press, and press out the blood, and a little salt.

Beef, Mutton, and Chicken Broth.—Take one pound of meat free from fat,

NOTE.—The satchel may be obtained of Fraser & Co., New York.

cook for three hours in one quart of water, adding water from time to time, so that when the cooking is completed there will be one pint of broth. When the broth is cool, remove the fat, strain, and add salt.

Oatmeal Jelly.—Oatmeal, four ounces, water, one pint ; boil for three hours in a double boiler, water being added, so that when the cooking is completed a thin paste will be formed. This while hot is forced through a colander to remove the coarser particles. When cold, a semi-solid mass will be formed.

Wheat Jelly and Barley Jelly.—Wheat jelly and barley jelly are made in the same way as oatmeal jelly, using cracked wheat or barley grains.

Scraped Beef.— Broil round steak slightly over a brisk fire. Split the steak and scrape out pulp, using a dull knife.

Egg-Water.—The white of one egg, thoroughly beaten in one pint of cold, boiled water ; strain ; add a pinch of salt.

Barley-Water. — Robinson's Barley Flour, one tablespoonful, water, one pint.

Boil twenty minutes; strain; add water to make one pint; add a pinch of salt.

Whey.—Put one pint of fresh milk into a saucepan and heat it lukewarm (not over 100° F.), then add two (2) teaspoonfuls of Fairchild's Essence of Pepsine, and stir just enough to mix. Let it stand until firmly jellied, then beat with a fork until it is finely divided; strain, and the whey (the liquid part) is ready for use.

Rice-Water.—Rice, one tablespoonful; water, one pint; boil three hours, adding water from time to time, so that there is one pint of rice-water at the end of the three hours. Add a pinch of salt.

Dextrinized Barley-Water.—Robinson's Barley Flour, three tablespoonfuls; water, one pint; boil twenty minutes; strain; add water to make a pint. When lukewarm (100° F.), add one teaspoonful of Cereo; also a pinch of salt.

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"Many thanks for the 'Health Notes' which ought to be very useful, as they will be, I trust, among our young men, who are in great need of such advice, at all times, and everywhere."—Oliver Wendell Holmes, Nov. 8, 1883.

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